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Structure of organizational trust in military-type and civilian organizations: Validation of the Organizational Trust Questionnaire

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Structure of organizational trust in military-type and civilian organizations: Validation of the Organizational Trust Questionnaire.

by

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It is very hard for me to believe that I made it this far, but here is the proof that I have. It doesn't feel much different quite yet – it had been a long venture and it is hard to grasp that it is over. I need time to fully comprehend this. While I am getting adjusted to the idea, I want to say my sincerest thank you to everyone who was with me on this rocky road, because without your encouragement, support and presence little would be possible.

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ABSTRACT

Contemporary research on organizational trust views it as either rational or relational phenomenon that is a result of interpersonal bonds or cooperative relationships between the trusting parties. Resent studies agree that a certain degree of trust must be embedded in and enacted through organizational interactions and structures, taking trust from a purely interpersonal phenomenon to a more complex organizational phenomenon that has multiple antecedents.

This study hypothesizes that that an organizational member's intention to trust others in the organization is affected by six factors: (1) the individual's propensity to trust, (2) co-workers' character and behaviors, (3) bosses' character and behavior, (4) organizational structures, (5) interactions outside of the organization, and (6) the individual's propensity to distrust. The study also suggests that individual intention to trust others in organizations varies depending on the degree of organizational formalization and centralization.

To confirm the existence of the proposed factors and explore the potential influence of structural dimensions on individual intention to trust, the Organizational Trust Questionnaire (the OTQ) was constructed and distributed to the employees of a law enforcement agency and a university. The data was analyzed using exploratory and confirmatory factor analyses and the Structural Equations Modeling technique.

The findings validate the OTQ and establish its usability in both civilian and military-type organizations. The results demonstrate that faculty members and professional and scientific employees of the university have higher levels of intention to trust than sworn officers of a law enforcement agency and merit employees of the

university. These differences are attributed to the differences in levels of centralization and formalization in the two organizations.

INTRODUCTION

Organizational trust is considered to be one of the key elements of any modern formal organization. Recent studies suggest that higher level of organizational trust has a direct effect on the organizational outcomes by affecting such internal organizational mechanisms as employee performance, loyalty and innovativeness (Lewicki & Bunker, 1996; Bachman, 1998; Kramer, 1999; Shockley-Zalabak, 2000).

As organizations are defined organization as a "social system that consists of the patterned activities of a number of individuals" (Katz and Kahn, 1978, p.122), it becomes especially important to maintain positive interpersonal relationships between organizational members. Webb (1986) states that the mere formality of organizational setting complicates the development of trust, as doing so in a formal organization usually requires people developing trusting relationships with strangers who are not unconditionally trustworthy, as opposed to the closest relatives and friends (primary group and initially informal relationship). Darley (1998) states that organizational relationships built on trust result in employees' willingness to cooperate and work towards organizational success, while violations of trust have a destructive effect on cooperation. Cook and Wall (1980) defined trust as "a highly important ingredient in the long-term stability of the organization and the wellbeing of its members" (p. 339). Thus, establishment of trusting relationships between the members of the organization becomes the key aspect of organizational development.

Numerous studies have focused on the three major distributions of trust within organizations: interpersonal trust (Cook & Wall, 1980; Mayer, Davis, & Schoorman, 1995), trust in management (Butler & Cantrell, 1984; Mishra & Morrissey,1990; Deluga,

1994, 1995) and trust in the organization (Tan & Tan, 2000). These distributions view trust as an interpersonal phenomenon that occurs due to a number of dyadic interactions, which, combined, provide information of a trust level on the organizational scale.

Chadwick (1998) developed a concept of trust existing as *a part of* organization, as opposed to trust existing *within* organization that allowed for perceiving it as an initial element enabling the organization to develop. This concept was later translated in the development of a working model of organizational trust that rests on six major elements: propensity to trust, interactions outside the organization, co-workers' characters and behavior, boss's character and behaviors, elements of organizational structure and propensity to distrust (Chadwick & Judge, 2004).

A preliminary attempt to create a measuring instrument that reflects these dimensions was made and the tool that permits evaluation of the status of trust as a part of an organization – the Organizational Trust Questionnaire (OTQ) – was developed (Chadwick & Judge, 2004). Despite the fact that multiple inventories were either initially developed for or partly served the purpose of measuring organizational trust (Interpersonal Trust Scale, Rotter, 1967; International Communication Association Audit, International Communication Association, 1971-76; Dyadic Trust Scale, Larzelere & Huston, 1980; Relational Communication Scale, Burgoon & Hale, 1984; Organizational Trust Inventory, Cummings & Bromiley, 1995), the recent developments in the field of organizational trust required a principally new approach. This necessity has been mostly dictated by the fact that none of the previously developed tools allowed analyzing trust as a complex phenomenon composed of several interconnected elements.

The uniqueness of OTQ permits a researcher to assess each element of trust and develop a customized approach to managing an organization. The original pool of the OTQ questions was originally developed for a military-type law enforcement organization (LEO) and has not yet been tested on any other type of organizational setting (*e.g.,* civilian).

The existing body of organizational research suggests that traditional organizational forms, such as bureaucracy, are experiencing a variety of transformations that allow organizations to better adapt to their environments. Thus, Mintzberg (1983) suggests that with the emergence of a professional workforce, traditional bureaucracies had to change in order to provide a venue for newly developed skills. The author refers to such transformed organizational type as "professional bureaucracy" and states that although the usual bureaucratic characteristics – as office hierarchy, formalization, specialization – take place in the new formation, professionals are allotted a wider degree of freedom in decision-making and less control from the top is implemented over their actions. The author lists a law-enforcement agency as one of the examples of professional bureaucracy. Universities are viewed as another example of such organizational type.

Due to the greater allotment of decision-making freedom to professionals in the evolved bureaucratic setting, organizational trust becomes viewed as a vital element for professional bureaucracy, as no independent professional functioning would be possible with the necessity of maintaining the absolute control over the professional operations. Yet, the degree of vitality of organizational trust for military-type and civilian organizations differs. The potential difference in emergence and maintenance of

organizational trust could be attributed to such factor as the difference in origins – military versus civilian.

As the professionals of the military-type organization are routinely subjected to the risks to their lives, the development of trust in such organizations is necessary to create the sense of interdependency that is important for reducing perceptions of uncertainty and risk for the employees (Whisenand & Ferguson,1973; Langworthy, 1986; Furman, 1997; Doerner & Dantzker; 2000; Swanson, Territo & Taylor, 2001; Adams and Webb, 2003; Groeneveld, 2005). For civilian-type organizations organizational trust plays more instrumental (compared to life-and-death) role that affects the costs of the transactions, employee retention, overall cooperative behaviors, effectiveness and organizational flexibility (Bradach and Eccles, 1989; Burt and Knez, 1995, 1996; Cummings & Bromiley, 1996; Creed & Miles, 1996; Zaheer, McEvily and Perrone, 1998; Abrams, 2001; Chu, 2003).

Due to the presence of such differences in the otherwise similar organizational structures, this study will attempt to apply the newly developed instrument to an organization other than an LEO – a university, in order to determine whether structural differences between the military- and civilian type organizations affect the dynamics of organizational trust. The study will also establish the instrument's validity outside of a law enforcement organization.

RATIONALE

The issue of organizational trust is becoming increasingly important in the realm of organizational studies and in the industry. As most organizations are based on the basic bureaucratic principle of impersonality (Weber, 1914), development of trust within the organization between the members of all hierarchical levels seems somewhat counter-intuitive, as many trusting relationships imply a certain degree of self-disclosure. Recent studies, however, argue that the development of trust in formal organizations does not require self-disclosure; yet, no trust can be developed without such elements as initial willingness to communicate and openly discuss important issues, the presence of mutual interests and goals (Gambetta, 1988; Shapiro et al., 1992; Limerick & Cunnington, 1993).

The body of research on organizational trust note a variety of positive effects of trust on such dimensions as organizational performance and effectiveness, employee retention, cooperation and productivity (Brann & Foddy, 1988; Davis et al., 1995; La Porta et al., 1997; Costigan et al., 1998; Darley, 1998; Dirks, 1999; Mayer & Gavin, 1999; Mayer & Davis 1999; Abrams, 2001). Tyler (1994) notes that trust in organizational authority leads to an increase of acceptance of organizational procedures and outcomes, which, in return, has a positive influence on conflict resolution. High level of trust in organization also positively affects employees' job commitment (Rich, 1997; Cullen et al., 2000; Gilliand & Bello, 2002). Braun (1997) found that the violation of employees' trust by management results in a decrease of productivity and the desire to contribute to the organization.

Trust also has economic benefits for organizations. Reducing long chains of authority in a vertical structure of an organization (thus, downsizing the number of

middle management) results in improvement of communication and, as a consequence, trust between organizational members. An increased degree of trust leads to significant reduction in costs of organizational transactions and achievement of more flexibility in inter-organizational negotiations (Williamson, 1993; Cummings & Bromiley, 1996; Creed & Miles, 1996). Researchers also state that presence of trust allows management to save time otherwise spent in explanations of the reasons behind required actions. This, in turn, helps timely and precise task completion (Lewicki & Bunker, 1996; Glaser, 1997; Bachman, 1998; Kramer, 1999; Shockley-Zalabak, 2000).

As the body of research reinforces the importance of formation of organizational trust, it becomes more evident studying different aspects of it and effects it has on organizations is necessary. The goal of this work is to introduce and to validate a new instrument that would assist both practitioners and theorists in evaluating organizational trust in various types of formal organizations. The results of this work could be rewarding in a number of ways.

The concept behind the Organizational Trust Questionnaire is unique as it allows developing an individualized approach to managing, restructuring and improving an organization through increasing the status of organizational trust as a core element of organizational structure and culture. Applications of this instrument will permit organizational authorities to gain insight into the internal environment of the organization and help focus on its existing problems. Identification of the potential problems will rest in the realm of instrumental elements that are corrected easier than complete re-socializing of co-workers that have a low personal predisposition to trusting others due to negative experiences prior to their employment in the organization.

Overall, the practical applications of this instrument have a potential to help managers diagnose the weaknesses and search for efficient ways to improve organizational outcomes through the modification of their organization's structure, internal environment and general expectations and behaviors of employees. Until now, however, the applications of the OTQ were limited to the assessments of a law enforcement organization, so the effectiveness of the instrument outside of the military-type setting is unknown.

The goal of the study is to apply the instrument to an organization that has a different from an LEO organizational objective and communicational tradition. Such application will provide clarity to the value of the instrument outside of the law enforcement organization. Since more information on the applicability of the instrument is necessary, both positive and negative results of the instrument evaluation will be equally valuable.

Validation of this questionnaire and the concept behind it will also benefit the academy by adding an updated model of organizational trust and a viable measuring instrument to the existing body of research. This will expand the library of available approaches to studying formal organizations and, specifically, such important aspect of them as organizational trust. The results of the study will also allow for further investigation of the effects of organizational structure on the level of individual decision to trust and the differences of the dynamics of trust between military- and civilian-type organizations.

The current model views trust as a part of an organization that is influenced not only by the interpersonal relationships between the individuals in the organization, but

also by the elements of the organizational structure and external factors that affect individuals outside of their work – particularly, employees interactions during their leisure hours. Analysis of the organization through a set of contributing factors, confirmed by the literature and extensive data analysis, rather than through the presence of interpersonal relationships between individuals within a business setting, allows organizational leaders to take into account a variety of characteristics that do not require intrusion into personal life of their employees.

Such potential of the OTQ as an assessment tool has a number of beneficial outcomes for both organizational practitioners and theorists. First, the application of the instrument can help construct an organization-specific overview, which is important, as in spite of the generic similarities, organizations do vary in their dimensions of centralization, differentiation, formalization and size. Second, understanding the particular organizational strengths and weaknesses will allow for development of strategies to remedy the outlined problems. Such targeted approach to improving organizational weaknesses will help saving investigation time and minimizing the stress of problem identification. As the earlier models and tools of assessing organizational trust were not intended for multidimensional in-depth investigation of the phenomenon, an objective assessment of the value of the OTQ will be beneficial for scholars and practitioners of organizational research.

LITERATURE REVIEW

Formal Organizations

The question of what constitutes formal organizations appeared in the literature over time and was addressed by a variety of scholars. The broad perspective of organizations as social systems agrees that they are bound by the notion of reality *sui generis* - the essential recognition of the fact that social system exceeds the sum of the individual beliefs, aspirations and interests Durkheim ([1912], 1999). Parsons (1971) also notes that organizations, as systems, are held together by direct interactions between their members, culture, social personality and behavioral organism.

Formal organizations have been defined as "systems of coordinated activities of more than one actor" (Etzioni, 1960, p. 258), or, in a more elaborate form, as systems "for mobilizing and coordinating the efforts of various, typically specialized, groups in the pursuit of joint objectives" (Blau, 1965, p. 324). Scott (1967) states that any social system can be described as an outcome of the intersection of *social structure* and *social process* that consist of a combination of organizational norms and values, statuses, roles, organizational ability to integrate and socialize its members, delegate authority and adapt to its environment. According to Giddens (1979), structure is a set of "rules, and resources, organized as properties of social systems" (p.66). Proponents of general systems theory (Scott, 1967; Weick, 1969, 1995; Ferguson & Wisenand, 1973; Katz & Kahn, 1978; Jelinek & Literer, 1994) view organizations as human systems created in order to achieve certain goals through planned and coordinated activities reached via communication between all the elements of the system and between the system and the environment. Such systems are characterized by four major features: shared goals and

values, deliberate distribution of duties, presence of conduct of ethics and/or set of rules and regulations, and existence of several sources of authority that control activities of the organization. These features are also known in the field as elements of organizational structure -the key that distinguishes a formal organization from any other type of social setting, since it serves for defining the channels through which authority is delegated upon the other members of the establishment. Organizational structure conditions a number of vital aspects that eventually shape further outcomes: trust, communication flow, overall effectiveness and business strategies organization develops for achieving the outcomes. DeCanio et al. (2000) state that organizations with firm and well-defined organizational structure tend to suffer less from environmental changes, adapt to them faster and implement changes within the setting easier than those that fail to understand the importance of organizational structure.

Organizational Structure

Despite the fact that formal organizations exist in a variety of types, distinguished by their primary purposes (Parsons, 1951), sizes (Blau, 1970; Gupta, 1980), degrees of employee compliance (Etzioni, 1961), forms of resource acquisition and adaptation patterns (Katz and Kahn, 1970) and target beneficiaries (Blau and Scott, 1962), they tend to adhere to the same structural bureaucratic pattern outlined by Weber (1914). According to Weber, a bureaucratic organization presents an *ideal type* of structure that is aimed toward achieving the utmost efficient organizational outcomes. In order to minimize resource waste, organizations follow six major principles that allow to increase their efficiency: specialization, office hierarchy, formal written communication, impersonality, following written rules and regulations and distinction between employees

and management. Attributing a great value to specialization and distinguishing between the general personnel and management, Weber notes that meritocracy becomes an important part of organizing: "Office holding is a 'vocation', first, in the requirement of a firmly prescribed course of training, which demands the entire capacity for work for a long period of time, and in the generally prescribed and special examinations which are prerequisites of employment" (p. 82). Subsequent studies of organizations adhered to Weber's model and agreed that most of the dynamics occurring within one organization resemble those within another by the mere virtue of structural similarity (Scott, 1967; Ritzer 2000).

Organizational research (Blau, 1970; 1972; Miller and Conaty, 1980) suggests that the greater the number of employees in an organization, the more divided the tasks become and, subsequently, the more complex is the organizational structure. Most differences between organizational functioning are attributed to the degree of each of the three major organizational dimensions – *centralization*, *differentiation* and *formalization* – that exist within the formal setting (Jablin, 1987; Shrader et al., 1989; Ritzer, 2000). The research suggests that larger organizations (above 2,000 employees) due to their operational complexity tend to shift towards strict differentiation, use formal approach and be centralized (Smeltzer & Fann, 1989; Smith et al., 1991).

Differentiation

Robbins (1990) defines complexit*y* as "the degree of differentiation that exists within an organization" (p. 83). This aspect of organization encompasses three types of differentiation: horizontal, vertical and spatial. Horizontal differentiation refers to the division of labor between various organizational units and the purpose these units serve

in the organization (their specialization). The increase in organizational specialization usually leads to the increase of vertical differentiation that refers to the length of the chain of command within an organization. Spatial differentiation is defined as "the degree to which the location of an organization's offices, plants and personnel are dispersed geographically" (Robbins, 1990, p. 89). Studies have shown that organizations that assign their units to produce independent elements of a particular product tend to suffer from the lack of communication and alienation of the units, which causes rigidity and constrains abilities of the organization to adapt to environmental change (Kanter, 1983; Shrader et al, 1989; Smith et al., 1991).

Proponents of differentiation, however, suggest that there is a presence of a connection between differentiation and organizational decision-making, stating that clarity in division of labor and responsibility permits for better planning by assigning each unit to a particular course of action in case of organizational crisis (Colling & Fermer, 1992; Weick & Quinn, 1999; Weick & Sutcliffe, 2001). General opinion among the scholars is that differentiation is necessary for organizations of a larger size, where task integration is harmful for work efficiency, as opposed to smaller organizations where employees tend to combine several job tasks (Yammarino & Naughton, 1988; Doerner & Dantzker, 2000).

Formalization

Formalizatio*n* is defined as the "extent to which rules and procedures mandated for work are explicitly stated" (McPhee & Pooles, 2001, p. 508). Re-phrasing the definition, the degree of formalization in an organization can be measured by the number of rules and regulations that ought to be followed in any work-related procedure by every

member of the organization. Robbins (1990) states that low levels of formalization allow for "relatively non-programmed" behavior of the employees, while the presence of high formalization levels results in limited behavioral frames, especially among the employees of the lower organizational echelon. Scott (1986) defines the concept of 'formal' as "referring to structures in which the constituent social positions and the relations among them are specified independently of the characteristics of the persons occupying the position" (p. 45). The author also proposes to view the concept of formalization as the process that occurs over time, and as a variable that permits for different degree of formalization.

Proponents of formalization found it a valuable tool for advanced planning and increasing awareness of corporate values, objectives and ethical conducts (Gilsdorf, 1992). Weick (1979; 1995) claimed the importance of rules in crisis communication and immediate organizational sensemaking – the process of organizational adaptation to crisis.

Centralization

Miller (1987) stated that high degrees of formalization lead to organizational *centralization*, the term that is used to describe the conditions of high concentration of decision-making power in one organizational point (usually on the top of organizational hierarchy). The low concentration of such power is referred to as "decentralization". As the relationships between organizational centralization and organizational complexity tend to be inversed (high centralization does not permit for high levels of differentiation, as it implies a certain degree of autonomy for the employees and degrees of freedom enabling them to make their own decisions on a job (Hage, 1980; Jablin and Krone,

1994), large organizations usually tend to become decentralized. However, a decentralized organization then takes a form of a collection of smaller organizations that are highly centralized within each other (Blau & Shroenherr, 1971).

Studies suggest that overall communication effectiveness increases with reduction of centralization (Weick, 1993), however, they do not account for differences of environmental pressures and agendas that exist between various parts and levels of a decentralized organization. At the end, all parts of a decentralized organization combined, the authoritative locus of an organization will represent a pyramid that differs by the levels of authority given to the authority figures within the organizational parts. Thus, the lack of awareness of the objectives of other participating departments makes the objective decision-making virtually impossible.

The intertwining of formalization and centralization results in the appearance of the administrative component as the coordination device of the organization. Organizational research operates with the term "administrative ratio" – the measure of the number of administrators per regular employee -- and suggests that the correspondence between the ratio and the size of an organization is stronger for growing organizations than for those that deteriorate (McKinley, 1987). Aldrich and Marsden (1988) also note that in case of downsizing, administration is "reluctant to eliminate their own positions" (p. 373), which is also a crucial factor that should be taken into account during substantial organizational changes.

Bureaucratic Transformations

A subsequent study of organizations have recognized that as the technology advances and the society progresses and seeks new forms of organizing, the idea of classical bureaucracy transforms as well (Etzioni, 1959; Weick, 1979). Mintzberg (1979; 1983) outlines four basic organizational types that evolve from the classical bureaucratic form: entrepreneurial startup, machine bureaucracy, professional bureaucracy and adhocracy.

The forms differ by their structural complexity and dynamic state (versus stable state). Thus, an *entrepreneurial startup* is viewed as the simplest form that exists on a fast track of development and expansion. A *machine bureaucracy* is a closed system that presents a stable organizational type characterized by all the classic weberian features and is highly reliable and useful when there is a requirement for repetitive tasks and highly standardized production. *Adhocracy* (or *innovative organization*) is characterized by the lowest degree of formalization and the highest degree of autonomy of all organizational members, as it is based on the combination of expertise of each individual organizational member and their mutual adjustment to each particular task. Thus, the adhocracy form cannot be used for highly standardized and repetitive tasks.

The *professional bureaucracy* is an intermediate form that, while maintaining the features of the classic bureaucracy, exists as an open system whose attempt for standardization is generated externally, from collaboration with other organizations alike. Mintzberg (1983) defines a professional bureaucracy as a system that "relies for coordination on the standardization of skills and its associated design parameter, training

and indoctrination. It hires duly trained and indoctrinated specialists – professionals – for operating core, and then gives them considerable control over their own work" (p. 53).

Another important distinction of a professional bureaucracy is reflected in the employees' ability to work independently from other organizational members, while adhering closely to the needs of the organizational clients. In order to make such an arrangement work, Mintzberg outlines six necessary organizational dimensions to support such an organizational form: strategic apex, middle line, operating core, technostructure, support staff and ideology. In such arrangement, *strategic apex* (or top management) is responsible for the overall guidance and objectives-setting for the entire organization; *middle line* (or middle management) coordinates the activities between the strategic apex and the rest of the organization; *operating core* concentrates on primary organizational purposes and operational processes; *technostructure* and *support staff* facilitate the necessary technological and other types of support required for an organization to serve its purpose, and *ideology* is an incorporation of organizational norms, values and policies into the routine operations of the organization and "indoctrination" of its members.

In a professional bureaucracy the main emphasis is placed on the operating core, as it becomes the key element of the entire organization, as it serves the primary purpose for the organization to exist. Neither the middle line nor the technostructure are very elaborate in such an organizational type, as there is little coordination of the professional work required. However, most of the effort of the members of other organizational parts is oriented toward supporting and serving the needs of the operating core.

Due to such focusing on the operating core, professional bureaucracies are usually highly decentralized. The work of the professionals in such arrangement then is not

highly repetitive and less standardized. Yet, as a professional bureaucracy is subject to standardization of production, a certain amount of repetitive tasks and procedures is necessary. Therefore, in order to maintain the proper functioning of such organization, parallel centralized hierarchies are being formed for the support staff. As a result various organizational dynamics are possible to occur within one organizational setting due to various degrees of formalization and centralization.

Another important aspect of an effective existence of a professional bureaucracy asserted in a variety of organizational studies is that the more decentralized an organization becomes, the more important becomes the degree of trust that exists within an organization on both vertical and horizontal levels (Bradach and Eccles, 1989; Burt and Knez, 1995; 1996; Creed and Miles, 1996; McEvily & Zaheer, 2004). As the relationships between the professional and the customer lie in the core of the professional bureaucracy, Mintzberg (1983) states that "controls upset the delicate relationship between the professional and his client, a relationship predicated on unimpeded personal contact between the two" (p.74). Thus, as the organization becomes more reliant on the skills and expertise of a professional, fostering of trusting environment becomes one of the key elements in sustaining a professional bureaucracy.

Trust in Organizations

Why trust matters

The interest in the matters of organizational trust was present in the field of organizational studies since 1950s, but the topic received increase in attention over the past two decades with the growth of communication technologies and adoption of new, more flexible forms of organizing (Bradach and Eccles, 1989). The research notes a

variety of beneficial organizational outcomes that are directly or indirectly influenced by the presence of trust on both vertical and horizontal levels of organizational hierarchy, as well as individual trust in the organization as a whole entity. Earlier studies suggest that trust on all organizational levels and between individuals and organizations is a strong antecedent for development of harmonious environment with the low predisposition to escalating conflicts (Deutsch, 1962; Gamson, 1968). Bradach and Eccles (1989) view trust as control mechanisms alternative to price and organizational authority.

Creed and Miles (1996) argue that in new organizational forms, such as matrices, low levels of trust result in centralization of decision-making power and decrease in efficiency and responsiveness. Burt and Knez (1995; 1996) view trust as the "cure" for organizational rigidity and a foundation for loose coupling that enable adaptive and sustainable networks. McEvily and Zaheer (2004) suggest that in geographically dispersed networks trust could be fostered through "network facilitators" – regional institutions that moderate communication between various parts of the network.

Lorenz (1988) suggests that achieving high levels of trust between the negotiating parties allows for effective investments in assets under the assurance of zero exploitation of the bargaining power. Bromiley and Cummings (1992) note also that increase in levels of trust in organization allows reducing transaction costs. Zaheer, McEvily and Perrone (1998) and Dyer and Chu (2003) found that a combination of interpersonal and organizational trust affects lowering negotiation costs in interorganizational decisions.

Over the past decade there was a noted tendency in the American society to steer away from developing and maintaining long-term social ties on both individual and individual-organizational levels (Granovetter, 1985). While people tend to

unconditionally trust their family members and friends (Webb & Worchel, 1986), organizational settings require them to develop trusting relationships with strangers who may not be originally perceived as trustworthy. Researchers argue that the development of trust in organizational settings does not require self-disclosure, yet, no trust can be developed without such elements as initial willingness to communicate and openly discuss important issues, the presence of mutual interests and goals (Gambetta, 1988; Shapiro et al., 1992; Limerick & Cunnington, 1993).

While developing a diagnostic tool for measuring organizational trust, Shockley-Zalabak et al. (2000) indicate that the presence of high levels of trust in organizations is associated with five general outcomes, such as more adaptive organizational forms and structures, strategic alliances, responsive virtual teams, effective crisis management, and reduction in litigation charges and transaction costs.

Organizational trust research indicates that trust between employees and management has a positive effect on overall organizational performance and productivity, as it leads to staff cooperation and motivation to work towards organizational success (Brann & Foddy, 1988; La Porta et al., 1997; Costigan et al., 1998; Dirks, 1999). Abrams (2001) states that trust between peers helps promote innovations and influences the increase in organizational effectiveness. Tyler (1994) notes that trust in organizational authority leads to an increase of acceptance of organizational procedures and outcomes, which, in return, has a positive influence on conflict resolution. High level of trust within an organization also positively affects employees' job commitment (Rich, 1997; Cullen et al., 2000; Gilliland & Bello, 2002). Braun (1997) found that the violation of employees' trust by management results in a decrease of productivity and the desire to contribute to

the organization. Elsbach (2004) also notes that it is through organizational supervisors that organizations manage and translate their image of trustworthiness.

Trust also has economic benefits for organization. Reduction of long chains of authority in a vertical structure of an organization results in improvement of communication and, as a consequence, trust between organizational members. An increased degree of trust leads to significant reduction in costs of organizational transactions (Williamson, 1993; Cummings & Bromiley, 1996; Creed & Miles, 1996).

A large number of studies stress the importance of trust when implementing organizational, or adapting to environmental, change. Researchers state that the presence of trust allows management to save time otherwise spent in explanations of the reasons behind required actions. This, in turn, helps timely and precise task completion (Lewicki & Bunker, 1996; Kramer, 1999; Shockley-Zalabak et al., 2000).

Trust in one's immediate supervisor is positively related to job satisfaction and quality of relationships (Brashear, Boles, Bellenger, & Brooks, 2003), and may be as important as job design in predicting workers' satisfaction (Cunningham & MacGregor, 2000). Trust in top management increases commitment to the organization and decreases employees' cynicism about changes and their intentions to leave the company (Albrecht & Travaglione, 2003). Furthermore, workers who trust their bosses are less likely to place blame on their bosses when the two parties engage in a disagreement (Korsgaard et al., 2002). Tyler and Degoey (1995; 1996) argue that presence of trust in organizational authorities affects employees' inclinations to submit to group rules and willingly accept supervisory decisions. The authors also state that trust becomes more pronounced and

imperative under the existence of social bond in superior-subordinate relationships, especially under a resource-dependent nature of it.

Trust has been found to directly affect the financial performance of companies. Hotels in which employees trusted their managers' statements and actions to be consistent were substantially more profitable than hotels in which employees lacked that trust (Simons, 2002).

Jablin's early review of the literature shows that the presence of trust has been linked to leadership, while the lack of trust has been linked to (a) concealment of issue-specific feelings and (b) distorted upward communication. Lack of trust increases semantic-information distance, potentially leading to decreased morale, overestimations of the amount of shared information, and differences in descriptions of self and judgments of others (1979, pp. 1204-1209). Robinson (1996) linked trust with the psychological contract workers hold, showing that a worker's initial trust in an employer is "negatively related to psychological contract breach one year later" (p. 592).

Schools of Thought

The topic of organizational trust has become one of the focal points in social research over the past decade. The studies of trust and its dynamics, however, are not new to social sciences. Originally conceptualized as a psychological matter, trust has been perceived as an attribute of a dyadic interaction, in which the vulnerability of one party depends directly on the goodwill of the other. Therefore, it was studied in late 60s and 70s solely in relation to the development of interpersonal relationships. The early tradition then was distinguishing between the two general perceptions of trusting

behaviors: cognitive and affective, that influenced the definitions of trust used in the field.

Proponents of the cognitive view perceive trust as a set of expectations that people possess about each other and the environment in which their interactions take place. Rotter (1971) defines trust as "an expectancy held by an individual or a group that the word, promise, verbal or written statement of another individual or group can be relied on" (p. 444). This outlook on trust also implies a high degree of comprehension of risks involved in the relationships between the trustor and the trustee, as it limits the subject to the needy-obligatory course of relationships and emphasizes the dynamics of vulnerability and power in relationship. Zand (1972) defines trust as "actions which increase one's vulnerability to another whose behavior is not under one's control in a situation in which the penalty one suffers, if the other abuses that vulnerability, is greater than the benefit one gains if the other does not abuse that vulnerability" (p. 230).

Scholars subscribing to the affective perspective, although noting the importance of the perceptions of risk and vulnerability, describe trust as a "process of holding certain relevant, favorable perceptions of another person which engender certain types of dependent behavior in a risky situation where the expected outcomes that are dependent upon that other person(s) are not known with certainty" (Wheeless and Grotz, 1977, p. 251). They emphasize the importance of personal characteristics that condition individual aspirations to trust certain individuals.

Interpreting trust as a risk-taking behavior that is used by one party for escaping from some unfavorable situation that the party found itself in, is a trend commonly found in the field. In this case, the vulnerability of the party is emphasized by the inevitability

of trusting, and an increased dependency between the trusting and trusted parties as a consequence (Mishra, 1996; Whiterer et al., 1998). Thus, although trusting behavior implies a certain degree of risk-taking, it retains other properties that suggest a presence of mutual dependency rather than distinctly empowered and vulnerable positions in the relationships (Tyler & Kramer, 1996; Kramer, 1999, Mollering, 2001).

Current organizational research operates from one of the two concepts of trust: rational and relational (Table 1.1). The rational perspective, derived from sociology and political studies, is based upon understanding of trust as a behavioral choice and suggests that involvement in trusting relationships is a matter of rational selection of an appropriate action among a possible variety of such (Axelrod, 1984; Coleman, 1990; Hardin, 1991; Williamson, 1993). According to this approach, along with personal interests, individuals understand the needs and requests of the other party and work toward balancing them to achieve a solution that benefits both sides. Burt and Knez (1996) describe it as "anticipated cooperation" (p. 70), while Coleman (1990) defines it as "an incorporation of risk into the decision of whether or not to engage in the action by acting based on estimates of the likely future behavior of others" (p. 91). According to this perception, the negotiation process is essential for this matter, and trusting relationships can be developed when both parties have mutual interests of being trustworthy. Tyler and Kramer (1996) note that under the conditions of cognitively perceived, calculation-based rational decision to trust, the parties' reputations are crucial: either personal standing of one of the parties or their affiliation with a certain group could increase or hinder the likelihood of further development of trusting relationships. This notion is extended by Lewicki and Bunker (1996) in their discussion of deterrence-based

trust that is usually found in relationships within and/or between organizations (as well as individuals) that lack the history of mutual experience. In such settings, the prior decision to trust the other party is based on reputation and a set of contractual obligations that prescribe a variety of sanctions for both fulfillment and violation of the other party's expectations.

Proponents of the relational view argue that the rational approach places trust among ordinary commercial interactions between a supplier and a consumer, while other attributes of trust as a social phenomenon are left unobserved (Tyler & Kramer, 1996). This group of studies suggests that trust exceeds the limits of calculated mutual profit-related interests and according behavior. Sheppard and Tuchinksi (1996) state that hierarchies are being increasingly replaced by lateral alliances and social relations, in which individuals are faced with situations where formal controls and sanctions do not exist (p. 153). Therefore, trust becomes a crucial element of social relations and emerges out of the social context itself (Tyler and Kramer, 1996). The authors then define trust as "orientation toward society and toward others that has social meaning beyond rational calculations" (p. 5) and point out that this, relation-based, affective perception of trust is especially important in individual interactions with authorities. Trustworthiness is viewed more central to the willingness to defer to authorities than is formal necessity. The same idea is later expressed by Miller (2004) who discusses the paradox of control: increase in formal controls over the personnel results in decline in their performance and overall effectiveness, and vice versa. Although relational theorists agree that, in a business setting, trust still possesses certain calculative characteristics, it becomes institutionalized with mutual interest in long-term cooperation or social responsibilities. Crasswell (1992)

states that non-calculative trust can be described as a motivation for a voluntary exposure to risk, as opposed to trust that is conditioned by a possibility of a loss.

Table 1.1 Concepts of Trust

	Rational	Relational
Properties	Trust is perceived as a cognitive and conscious outcome of relationships between: a) party in unfavorable position depending on a stronger party for improvement of a situation b) parties deriving mutual benefits of relationships c) parties involved in relationships through official paperwork that establishes benefits and punishments for maintenance/violation of trust d) parties with a certain set of expectations about each other conditioned by previous common experiences	Trust is perceived as a natural aspiration of a human being based on: a) one party's initial belief in non-harmful intention of the other b) mutual willingness to cooperate that leads to the development of certain common interest(s) as opposed to maintenance of independent interests of both sides c) influence of external factors on parties' predisposition to trust d) social rather than resource-based motives
Key Point	Vulnerability of one party or mutual benefits for both parties serve as the main condition for development of trusting relationships	Continuous process of negotiation underlining the relationships rather than strict assignment of benefits and punishments to actions taken throughout the relationships
Scholars	Zand (1972) Axelrod (1984) Coleman (1990) Hardin (1991, 1992) Williamson (1993) Liebeskind & Oliver (1998)	Webb & Worchel (1986) Gambetta (1988) Hosmer, 1995 Cummings & Bromiley (1996) Tyler & Kramer (1996)
Definitions	"Actions which increase one's vulnerability to another whose behavior is not under one's control in a situation in which the penalty one suffers, if the other abuses that vulnerability, is greater than the benefit one gains if the other does not abuse that vulnerability" (Zand, 1972, p. 230)	"Individual's or common belief among a group of individuals that another individual or group (a) makes good-faith efforts to behave in accordance with any commitments both explicit and implicit, (b) is honest in whatever negotiations preceded such commitments, and (c) does not take excessive advantage of another even when the opportunity is available" (Cummings & Bromiley, 1996, p.303)

Trust: the Taxonomy

Organizational research classifies three types of trust that could be evaluated on the continuum of the most brittle to most sustainable: calculus (deterrence or)-based, knowledge-based and identification-based trust (Lewicki & Buncker, 1996; Sheppard & Tuchinsky, 1996; Kramer et al., 1996). For a brief comparison of the three types of trust view Table 1.2.

Calculus-based trust is based on the system of rewards and punishments that follow stable maintenance or violation of trust. This type of trust is widely represented in business relationships and initially established between the management and employees or short-term partners on a contract basis due to the fact that contracts between the two parties usually state the consequences of successful or failed cooperation. This type of trust is considered to be the most fragile among other types. Lack of substantial knowledge of or previous experience of working with the trusted party does not allow a faux pas from either side. Thus, a single violation of calculus-based trust may lead to its termination and total rejection of future encounters with the failure party.

Knowledge-based trust exists as a more complex relationships system that rests on the set of previous experiences and expectations that could be derived from the familiar behavioral patterns. This type of trust suggests a frequent and long-term interaction that requires changes of contexts and stimuli. As an outcome of such relationships, partners receive an opportunity to observe each other's behavior and ask questions, obtain necessary explanations and become aware of each other's reactions.

Such awareness allows for setting certain expectations about the future actions between the partners.

The third type, identification-based trust is achieved on such stage of relationships where the partners have an explicit understanding of each other's needs and preferences and are able to act on each other's behalf. Based on factors that condition the development of calculus and knowledge-based trust, identification-based trust also includes a variety of other factors such as development of a common name, common location, joint project and presence of common values, interests and goals. This type of trust is considered the most explicit and flexible, which allows for durability on a long run. However, regardless of the strength of such relationships, violation of identification-based trust often leads to a complete elimination of existing relationships between the parties involved. Such a crucial effect of a single failure is caused mainly by the conflict of interests and values that are essential for this type of trust, rather than by the conflict of known behaviors or agenda completions. Due to the fact that in relationships of this type one party acts on behalf of the other, the violation of trust on this level can cause a serious damage to the betrayed party and completely destroy the relationships without a possibility of restoration. Sako (1998) also notes that this type of trust has the most influence on business performance among the three.

Table 1.2 Types and Characteristics of Trust

Type of Trust	Definition	Maintenance and Establishment	Strength	Violation and Restoration
Calculus-based	Trust that is "sustained to the degree that the deterrent (punishment) is clear, possible and likely to occur if the trust is violated." (Lewicki & Bunker, 1996, p. 119)	It rests not only on the possibility of punishment, but on an expectation of a reward. Usually established through legitimate paperwork (*e.g.* work contract, application, letter of intent)	Fragile at early stages, yet, if ensured by deterrence or benefit factors and the value of professional reputation, is quite stable.	Violation of calculus-based trust often leads to a complete breakup of the relationships. Yet, with the mutual agreement between parties the relationships can be restored through improvement of deterrence-benefit system
Knowledge-based	Trust that develops over time, largely as a function of the parties having a history of interaction that allows them to develop a generalized expectancy that the other's behavior is predictable and that he or she is trustworthy (Lewicki & Bunker, 1996, p. 121)	Established over time through repetitive interactions that allow for each party to observe behavioral patterns of each other in different circumstances	Based on understanding of behavior, rather than on obeying stated norms, it tends to be more accepting and more durable than calculus-based trust	If most of external factors are accounted and understood by both parties, failure of expectations is less likely to damage the level of trust. Yet, if the matter was considered a violation, the parties are more likely to re-evaluate the status of their relationships and perceptions of each other

Table 1.2 Types and Characteristics of Trust *(continued)*

Type of Trust	Definition	Maintenance and Establishment	Strength	Violation and Restoration
Identification-based	Trust that permits a party to serve as the other's agent and substitute for the other in interpersonal transactions (Lewicki & Bunker, 1996, p. 122)	Established through activities of calculus and knowledge based trust supplemented by development of a collective identity, joint product or common goal, common location, and shared values	The variety of factors strengthens the bond between the two parties insuring resilient and long-term cooperation	Due to the fact that the violation of this type of trust implies the failure of common values and promises, the possibility of restoration will be conditioned by the status of calculus and knowledge-based trust in the relationships

Defining trust

Researchers define trust in a variety of ways. First, it is an outcome of personal or group confidence of non-harmful intentions and decency of the other party (Gambetta, 1988). Second, it is an expectation of a positive consequence of the cooperation (Hosmer, 1995). Thus, it is a result of a combination of cognitive, emotional and behavioral states within a certain sociological environment (Lewis & Weigert, 1985), and also a requirement for establishment of any social relationships and a prerequisite for conflict resolution (Kipnis, 1996). Finally, Cummings and Bromiley (1996) define trust as an "individual's or common belief among a group of individuals that another individual or group (a) makes good-faith efforts to behave in accordance with any commitments both explicit and implicit, (b) is honest in whatever negotiations preceded such commitments, and (c) does not take excessive advantage of another even when the opportunity is available" (p. 303).

Contemporary research on organizational trust views the existence of trusting relationships between the members of organization among the most influential factors that affect organizational outcomes. Theorists also agree that modern organizations require a certain degree of trust be initially embedded in them. Thus, trust can no longer be perceived as a pure interpersonal phenomenon and has to be studied as a complex issue that is combined with -- and influenced by-- a number of factors (Bromiley & Cummings, 1992; Sheppard & Tuchinsky, 1996; Meyerson et al., 1996). Strictly following either the rational or relational perspectives allows for the study of only particular aspects of trust, thus, setting limits for observing trust in its complexity. For this reason, some researchers view trust as a combination of the two concepts (Lane, 1998; Sydow, 1998).

Chadwick (1998) argues that trust is so multidimensional in its attributes that it cannot be classified as solely rational or relational. His definition is used to explain the meaning of organizational trust in this paper:

> Trust is the individual's belief that another organizational member will act in a consistent manner, appropriate with regard to the parameters of the situation, the parameters of the organizational structure, and in a cooperative, or at least not harmful, way so that the individual would consider not cooperating with other members to be inappropriate (p.16).

Themes of trust within organizations

When looking across the available organizational trust research, and considering the variables associated with the extant organizational trust surveys, several common themes emerge, including (a) propensity to trust, (b) co-workers' character and behavior, (c) interactions outside of the organization, (d) organizational structure (e) boss's character and behavior, and (f) propensity to distrust. These themes suggest attitudes,

interactions, and organizational structures that are antecedent to a worker's decision to trust another organizational member. In the following text, additional research findings are reported that specifically address the six themes. The relative depth of research on each of the themes may be a sign of how embedded they are into the trust process, such that when trust is investigated interpersonally, as it commonly is, these organizational themes remain out of focus.

Propensity to Trust

Van Dyne, Vandewalle, Kostova, Latham and Cummings (2000) define propensity to trust as an "individual difference that represents individual's tendency to trust or distrust" (p. 6). Rotter (1971; 1980) argues that individual's propensity to trust matters especially when the environment is uncertain and the outcomes of a situation the trustor is immersed in involve risk. In organizational settings the issue of propensity to trust becomes increasingly important, as individuals have to simultaneously encounter multiple people of various hierarchical statures who would require development and maintenance of relationships, necessary for accomplishing primary organizational tasks cooperatively.

"It is impossible to think about individuals or organizations having innate levels of trust and trustworthiness independent of the environment, the actions of one another, the nature of the outcomes and the consequences of those outcomes to specific individuals," state Bhattacharya, Devinney and Pilutta (1998, p. 468), summarizing the factors, effects of which can potentially influence individuals' propensity to trust both in general and a specific organizational setting. People enter into workplace situations bringing their past with them. Part of that past includes their trust-related experiences,

their knowledge and practice of their cultural background, and their personality. As a whole, those phenomena combine to create a propensity to trust, a "general willingness to trust others" (Mayer, Davis, & Schoorman, 1995, p. 715). The amount of willingness to trust varies by individual (Rotter, 1980), and average levels of propensity to trust vary by culture (Huff & Kelley, 2003).

Wicks, Berman and Jones (1999) ascribe particular importance to the willingness to trust and its input into the overall formation of "optimal trust", as according to their definition, optimal trust exists "when one creates and maintains prudent economic relationships biased by a willingness to trust" (p. 103). The authors elaborate on the idea of trust bias, explaining it through individual's willingness to take risks associated with trusting other party, risks that are driven by reasons other than pure rationality, but the reasons that are grounded in the commitment to trust itself.

Weber and Carter (2003) view trust as a socially constructed quality that is based on voluntary assumption of emergent relationships. The authors suggest that individuals apply trust as the means to produce individually meaningful relationships with the outside world. Thus, individuals' perceptions of trustworthiness are based largely on the experiences that are also individually meaningful to the trusting parties. Pratkanis (1989) also notes that trusting enables people to make sense out of their social environments. Boyle and Bonacich (1970) state that the alterations in individual's willingness to trust will occur based on the difference between the actual experience and the initial expectations of it.

Proponents of the social categorization theory (Brewer, 1979; Brown and Turner, 1979; Tajfel, 1982) suggest that belongingness to the in-group results in formation of a

strong in-group bias that allows the in-group members to perceive their peers as trustworthy and, thus, preserve a more favorable attitude toward them as opposed to the out-group members. Williams (2001) states that individuals tend to trust the in-group members, mostly due to the lack of information about the people from the out-group.

Zolin et al. (2004) argue that trustors' behaviors are also influenced by their perception of potential beneficial outcomes of the situation, which reinforces the contextual nature of trusting behaviors that emerge specifically in given circumstances. However, all individuals use their propensity to trust as one important piece of data in situations lacking information from which a trust judgment can be made. McNight, Cummings and Chervany (1998) propose that in forming new relationships within an organization, individuals use three types of categorization processes, such as unit grouping, reputation categorization and stereotyping. Unit grouping is based primarily on the assessment of shared beliefs, values and goals among the organizational members along with the trustor's perception of an individual as an in-group or an out-group member. McNight et al. (1998) propose that reputation categorization is based on initial perceptions of a person's reliability, honesty and benevolence, while stereotyping is based on general prejudices and biases possessed by a trustor prior to entering the new setting. The authors also suggest that formation of trust under the latter process could be hindered or facilitated by the direction of the stereotype. Thus, positive stereotyping results in a faster development of trusting relationships, and the initial negative stereotyping has an opposite effect.

A high level of propensity to trust is positively correlated to organizational citizenship behavior (Van Dyne et al., 2000). Further, "over time those with high

propensity to trust get involved and generally have positive interactions which enhance their sense of identity as organizational members" (p. 18). The authors link individual's propensity to trust to the phenomenon of organization-based self-esteem. Organization-based self-esteem (OBSE) is defined as "a self-perceived value that individuals have of themselves within a specific organizational context" (p. 7). Research demonstrates that as people feel that their contribution to the overall organizational goal is significant and is valued by the organizational leadership and co-workers, their propensity to trust tends to be consistent with organizational culture (Markus and Wurf, 1987; Brockner, 1988). On the other hand, research suggests that as individuals tend to preserve attitudes that are consistent with their own self-concepts (Heider, 1958), individuals with initially high self-esteems tend to exhibit more cooperative behavior and contribute to the organization (Korman, 1970).

Rotter (1980) suggests that individuals with high willingness to trust are sought for interpersonal relationships more frequently than people with low willingness to trust. This idea is extended in a variety of experimental studies that investigated the behavioral differences between high and low trustors. The overall findings demonstrate that individuals with high levels of propensity to trust are able to produce more accurate predictions of others' behaviors than people with medium or low propensities to trust (Yamagishi and Yamagishi, 1994), thus, they are able to form more realistic expectations of behaviors for the other trusting party (Yamagishi, Kikuchi and Kosugi, 1999). Individuals with high propensity to trust are found to be more cooperative and less susceptible to forging committed relationships under the condition of uncertainty (Yamagishi, Cook and Watabe, 1998). Orbell and Dawes (1993) also have found that as

high-trusting individuals do engage in conversations with strangers more frequently than low-trusting individuals, they are able to obtain more information that allows them to assess the potential for one's trustworthiness earlier, thus aligning their further behavior consistently with their evaluation.

Van Dyne et al. (2000) propose that as trusting individuals emphasize the value of relationships with other members in an organizational setting. Through these relationships, along with seeking ways to increase their contribution to the organization, they tend to have more positive experiences within the organization. The authors argue that positive experiences allow strengthening the ties of an individual to an organization, as a result, increasing individual loyalties and propensity to trust. This thought is consistent with earlier studies that proposed a rational exchange model, according to which propensity to trust will rely largely on the sense of reciprocity (Gouldner, 1960; Blau, 1964). The more recent studies, however, state that rational-reciprocal approach to forming propensity to trust does not reflect the entire multifaceted nature of individual willingness to trust others (Cook and Cooper, 2003; Murnighan, Malhotra and Weber, 2004).

A variety of studies also emphasize the importance of time as a factor that influences shaping individual propensity to trust. With regard to that, the individual tendency to gain positive or negative experiences in an organization becomes amplified over the length of individual's tenure in an organization. So, the prevalence of positive experiences tends to result in enhanced propensity to trust, while dominating negative experiences lead to its significant decrease (Gambetta, 1988; Rousseau, 1989; Mathieu and Zajac, 1990).

Propensity to Distrust

The issue of trust disintegration, abuse of trust and distrust in organizational settings attracted a lot of attention over the past decade, and the interest in this area keeps growing (Sitking and Roth, 1993; Bies and Tripp; Lewicki and Bunker, 1996; Elangovan and Shapiro, 1998; Hardin 2004). Luhmann (1979) argues that trust and distrust are separate phenomena. When a worker distrusts another worker, she is enacting her "positive expectation of injurious action" from her co-worker (p. 71). While trust is used to feel comfortable with taking risks in uncertain situations, distrust is used to protect oneself from risk. Distrust results in perceiving another person as a threat, and perceiving that person as a threat leads to greater distrust (Webb & Worchel, 1996, 226-227).

Sitkin and Roth (1993) agree that trust and distrust are separate constructs, claiming distrust comes from the perceived incongruence of the enactment of cultural values. Trust and distrust can exist simultaneously, as part of a complex social relationship (Lewicki, McAllister, & Bies, 1998). But, if a person has a propensity to trust, they must also have a propensity to distrust (Rotter, 1980).

More recent studies (Hardin, 2004; Ullmann-Margalit, 2004) treat distrust as an opposite of trust that has a mediating neutral stage, or "trust agnosticism". Both trusting and distrusting behaviors require reasons for enactment; thus, the mere absence of trust does not automatically result in presence of distrust and vice versa. Discussing the reasons for institutional distrust (*i.e.,* people's perception of an organization as untrustworthy), Ullmann-Margalit (2004) states that as individuals expect an institution to be impersonal, the stance of distrust could be assumed based on perceived intentions held by the officeholders, and/or on consistent discriminatory or unfair practices that

affect one's well-being. This notion is consistent with the notion of calculus-based trust discussed by Lewicki and Bunker (1996). The authors emphasize the importance of fulfilling the contractual obligations between the trustors, on both interpersonal and individual-organizational levels in order not to breach the sense of trustworthiness between the parties which would lead them into the realm of distrust.

The use of surveillance technology, breaches of the psychological contract, and third-party disclosures can increase distrust in an organization (Cialdini, 1996; Robinson, 1996; Burt & Knez, 1995). Using Putnam's (1993) argument that formation of trust is hindered in the countries with domination of hierarchical religions that depress development of horizontal ties between people, La Porta et al. (1997) investigate trust on a societal levels and demonstrate that social distrust negatively affects the overall performance of large organizations. The transitioning into distrust could be vastly amplified in the case of knowledge- or identification-based trust, as the failure to fulfill the trust contract could be perceived as a moral violation.

A variety of studies also emphasizes that distrust can result from a violation of norms that are known to all the parties involved. Levi (1998; 2004) focuses on illegal behaviors and their influence of disintegration of trust. Elangovan and Shapiro (1998) concentrate on betrayal – defined as "a voluntary violation of mutually known pivoted expectations of trustor by the trusted party (trustee), which has the potential to threaten the well-being of the trustor" (p. 548) -- as the means to create distrust. The authors argue that betrayal tends to happen as a result of incongruence between the norms and values of an organization and the norms and values that an individual ascribes to (including individual pursuits and goals). Thus, organizational culture is essential for having a

positive or negative effect on individual's motivation and likelihood of betraying behaviors.

Burt and Celotto (1992) conducted a content analysis of typical indicators of distrust in organization and have found out that most of the explanations described a variety of uncooperative behaviors. Such behaviors included traits that undermine interpersonal relationships (*e.g.,* self-centeredness, pursuit of own agendas, withholding help), undermine group work (*e.g.,* not following through with commitments) and undermine performance (*e.g.,* lack of feedback, lack of socialization into the organizational culture/policy). Govier (1998) also indicates that lack of sufficient knowledge is a strong potential antecedent of distrust.

Distrust could also be developed through reduction of trust. Research identifies a variety of factors that can influence such reduction. Bless, Igou, Schwarz and Wanke (2000) suggest that trust in a peer can be reduced through the use of references to untrustworthy sources or exemplars (*e.g.,* citing a politician who is deemed untrustworthy by a trustor). Myers and Dugan (1996) find that exhibiting discriminatory behaviors results in reduced trust (their study examines sexist behaviors of professors in a classroom). Elsbach and Elofson (2000) suggest that the use of hard to understand, overly technical language while communicating the reasoning for decision-making has a negative effect on trust. Overly formal or overly informal attire also promotes the reduction of trust between the actors (Roll and Roll,1984; Carter and Motta, 1988; Heitmeyer and Goldsmith, 1990). In their study of interactions between counselors and their clientele, Carter and Motta (1988) found that addressing others by their last names could also reduce the initial trust levels between the interacting parties.

Burt and Knez (1996) supplement these findings by examination of a third-party gossip effects on the development of trusting relationships among peers. The findings demonstrated that gossiping behaviors tend to reinforce existing relationships, thus, under the conditions of strong interpersonal bonds trust is amplified, while it tends to be severed when the relationship bond is weak. The authors also point out that trust development is incremental, while the magnitude of the effects of distrust is more catastrophic in nature.

Murnighan, Malhotra and Weber (2004) challenge the common conception in the field that once broken, trust transfers into the realm of distrust, which makes it nearly impossible to re-establish (Rempel, Holmes and Zanna, 1985; Lewicki and Bunker, 1996). The authors conclude that it is possible to make a backward transition from distrust back to trust given the presence of willingness to proceed and irrationality on the part of the trustor and the presence of substantive penance on the part of the amending trustee.

Boss's Character and Behavior

Authorities, playing a key role in the organizational hierarchy, always had an ability to make a decision that would be accepted without any justification and explanation. However, the nature of this acceptance is not well studied yet. The ability of supervisors to enact authority in organization is deemed as an important antecedent of organizational effectiveness. Weber (1914) suggests that the rationality of a bureaucratic establishment requires the downward delegation of authority through the well-defined levels of hierarchy in order to maximize the efficiency of task fulfillment. Weber also suggests that bureaucratic leadership is non-coercive and is achieved through the mere

acceptance of the position by both the leader and the followers along the hierarchical ladder of the organization. Thus, the acceptance of superior's decisions among the employees is voluntary in a sense that compliance with their organizational roles prescribes following the chain of command and overall organizational policy. How bosses communicate with and enact control over their subordinates affects the subordinates' trust in that boss (Willemyns, Gallois, & Callan, 2003). Factors such as fairness, open communication, confidentiality, and consistency in action affect that trust (Abrams, Cross, Lesser, & Levin, 2003).

Pfeffer (1992) notes that as superiors have control over the information flow in organizations and make decisions over sharing or not sharing certain types of information, they have a power of influencing the development of trust between different levels of organizations or between various organizational parts. Compared to workers who do not trust their managers, workers who trust their managers, report fewer signs of burnout and are less likely to perceive that work interferes with their family life (Harvey, 2003). Trust is linked to high levels of support given to subordinates from superiors, which in turn is linked to higher average performance evaluations (Albrecht & Halsey, 1992). McAllister (1995) suggests that high level of trust in superiors influences the development of "good citizenship" behaviors which include increase in cooperative behaviors and consideration for the needs of others among the employees. The author also notes that organizational members tend to perform better under the conditions of trust than otherwise.

Trust in superiors has been shown to be significantly correlated with job satisfaction and overall job performance (Pettit, Goris, & Vaught, 1997), and satisfaction

with communication (Roberts & O'Reilly, 1974), and to have an "above average impact on productivity" (Clampitt & Downs, 1993, p. 18). Whitener, Brodt, Kosgaard and Werner (1998) point out five essential behaviors that managers could display in order to foster the trusting relationships among employees. These behaviors include: behavioral consistency; behavioral integrity; sharing control; accurate and open communication; and demonstrating concern (p. 516). As previous research indicates the importance of consistent and predictable behaviors in the formation of trusting relationships and the overall image of trustworthiness on the part of the participating actors (Johnson-George and Swap, 1982; Butler, 1991; Mayer et al., 1995), Whitener et al (1998) argue that as employees' confidence in supervisory behavior increases, their willingness to take risks in their work or in their relationships with the supervisor increases. Such tendency is beneficial for the overall organizational effectiveness and efficiency (Arrow, 1974; Gomez and Rosen, 2001) as it allows minimizing the amount of time spent negotiating and justifying the required action and promoting initiative on the part of the employees.

The concept of employee empowerment that is linked in literature to improvement of organizational effectiveness (Kanter, 1989; Hollander and Offermann, 1990; Spreitzer, 1995, 1996) is interconnected to the idea of organizational trust. Creed and Miles (1996) draw connections between the existing managerial philosophies (traditional, human relations and human resources)[1] and superior-subordinate trust. The

[1] First known model of organization, also called *traditional* model, was developed in 1800s. It was based on the assumption that work is an undesirable necessity that people have to face in order to earn money. The role of a manager in such model was mostly to closely supervise employees and establish detailed and clear work routine that would allow total control over subordinates. Traditional approach was shifted in 1890s with the appearance of *human relations* model based on the assumption that people have a need to be recognized and to feel useful. Managerial policy in this case required managers to inform employees about the future plans and allowed them some self-control of routine tasks (Bendix, 1956).

authors suggest that over-management decreases the potential benefits of subordinate expertise, results in delays in implementation of routine operations, and decreases the overall morale. Due to the fact that as most modern bureaucratic structures do not allow for individuals to produce measurable individual outcomes, the organizations employ hierarchy and rules for the subordinates to adhere to in order to ensure their consistent contributions. Gouldner (1954) emphasizes that enhanced control over operations led to decrease in performance and increase in satisfycing behavior. Miller (2004) extends this idea and suggests that underestimation of employees' abilities by the manager and emphasis on the precise following of all rules results in goal displacement (or, following Weber's term, in the appearance of the "iron cage of rationality").

Brehm and Gates (2004) note that employees who have trusting relationships with their managers tend to put forth more working hours per week and are less likely to violate the organizational policies and rules. Davis et al. (1995) state that within a culture of low organizational trust employees tend to use rule-breaking and sabotaging work process as means to demonstrate their dissatisfaction with the organization. Such behaviors are damaging for all aspects of organizational life. Overall, the research deems

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1920s brought in a new model known as human resources management. According to this model people were creative, responsible and interested in contributing to the common goals established with their participation. The main goal of a manager under such assumption turned to creating an environment that would allow each member of the organization to contribute to the goal fulfillment (Chandler, 1962).

The latest shift happened in the early 1990s and is tied to the beginning of the information era. The new approach was called *human investment* and was developed for network-structured organizations. Assumptions underlining this model are focused on human potential and capabilities that can be developed and applied to the goals, as well as human competency and deep understanding of organizational matters (Miles & Creed, 1995). People, perceived as trusted and capable of developing interpersonal and organizational skills, are allowed a great deal of self-control and self-regulation within an organization. Such drastic change of perception led to a change of managerial objectives in organization that are now revolving around two key matters: training and development of employees that could work within a network, and information facilitation between the members of a network (Chandler, 1992; Creed & Miles, 1995; 1996; Etzioni, 1998).

relative independence of employee decision-making essential to the stable functioning of a variety of organizational types, both centralized and dispersed, such as professional bureaucracies (Mintzberg, 1979), temporary work groups (Meyerson, Weick, and Kramer, 1996), networks and matrices (Creed and Miles, 1996; Powell, 1996).

Tyler and Degoey (1996) suggest that the nature of acceptance of the supervisory decisions by the employees consists of the two major components: a) calculative/instrumental judgments that reflect respondents' perception of the favorable outcome of the authoritative decision and b) relational judgments reflecting the trustworthiness of the authorities and their willingness to make unbiased decisions. The authors have also found that the level of employees' trust significantly increases, when authorities help create social bonds in the organization and support individuals in developing self-identity at work. However, under the conditions of trust deficit between superiors and subordinates, the costs of operating controls tend to increase due to various levels of organizational redundancies (Creed and Miles, 1996).

A variety of studies emphasizes the importance of benevolence display in superior-subordinate dynamics of trust (Mayer et al., 1995, McAllister, 1995; Mishra, 1996; Tyler and Degoey, 1996; Elsbach, 2004). Whitener et al. (1998) state that trustworthy behavior on the supervisor's part entails three components such as a) demonstration of consideration for the employees' needs; b) protecting employees' interests and c) refraining from exploitation of employees in pursuit of individual goals. Brehm and Gates (2004) enhance this list by suggesting also that superior-subordinate trust could be fostered through providing opportunities for employees' professional enhancement (training) and "political cover" (p. 43).

Clark and Payne (1997) state that the subordinate-superior trust is unidirectional and occurs through a perception of an employee's well-being inside the organization. Mayer and Gavin (1999) point out the fact that high level of trust between employees and management contribute to employees' ability to focus on their work.

Organizational Structure

In spite of the fact that traditional approach to organizational trust views it as a product of daily interactions between individuals (on both vertical and horizontal levels), the influences of organizational structure on formation of trust within organizations became more noted in research over the past twenty years. Hardin (1996) suggests that organizational designs could potentially facilitate trustworthiness and trusting behaviors on employees' part. Luhmann claims that if a person wants to know how strong trust is and through what actions it can be changed, then the person must "be acquainted with the history of the system", in this case the structures and processes of the organization (1979, p. 75). Creed and Miles (1996) state that "a function of managerial philosophy and its structural manifestations" (p. 19-20) and Babrow (1998) notes that organizational "arrangements (structures) determine the shape, direction, and consequences of interaction patterns" (p. 153). Thus, it could be concluded that organizational structure allows and constrains trusting in the organization. McEvily, Perrone, and Zaheer (2003) posit that trust affects the "patterns and processes that enable and constrain the coordination of work among individuals" (p. 94). The key patterns affected include the density, multiplexity, stability and nonredundancy of social structures within the organization. Trust also works to mobilize the organization by facilitating knowledge

sharing, commitment to the organization, and reducing the need to monitor others' behaviors.

Tan and Tan (2000) found that workers distinguish between trust in their bosses, and trust in the organization, which is affected by organizational structures and processes. Organizational structures affecting the flow and types of communication between superiors and subordinates have been found to moderate the effects of listening on perceptions of trust in the superiors (Stine, Thompson, & Cusella, 1995). Pfeffer (1992) notes that within the status/role dimension of organizational structure, organizational superiors often represent the internal mechanisms that form the atmosphere of trust across and within organizational levels. The issues of status/role are also deemed important in the literature on temporary work groups that are said to produce "swift trust" – the mechanism of relying on the temporary co-workers within an intense short-term project. The research finds that the degree of trust bestowed upon the individual within such team is largely dependent upon the role granted to the trusted party in the project (Meyerson, Weick and Kramer, 1996). Farrell (2004) examines the relationships between power an trust and concludes that degree of empowerment of the trusting parties affects their evaluations of the worthiness of the overall relationships and that the distribution of power influences the variety of cooperating behaviors that are based on the premise of trust and trustworthiness.

The more the structures allowed for open communication, the greater the effect the superiors' listening behaviors had on their subordinates' trust of them. Weber and Carter (2004) view trust within the framework of social structure. In such setting, trust reflects individuals' status-role dynamics in relation to other organizational members'

status-role dimensions. The authors also suggest that violations of trust usually occur through the violation of the normative order of the system, where the appropriate behavioral codes are being breached. Creed and Miles (1996) discuss such modes of trust production as characteristic-based and institutional-based trust that are rooted deeply in adherence to the norms and fulfillment of obligations.

A variety of studies note the importance of organizational predictability in a formation of trust. Sheppard and Sherman (1998) state that relationships of interdependence are based on two major types of risk: unreliability and indiscretion. The risk of unreliability is reflected in the trusting party's concern with unanticipated behaviors on the part of the trustees, while the risk of indiscretion focuses on the possibility of the withholding of vital information by a trusted party. The research indicates that risk of unreliability (widely discussed in quality literature [Deming, 1982; Sitkin, Sutcliffe and Shroeder, 1994]) is usually decreased through promoting and enforcing the behavioral norms within the organization or between the acting parties. Those mechanisms are tightly connected with the notion of calculus-based (deterrence-based) trust (Shapiro, Sheppard and Cheraskin, 1992; Lewicki and Bunker, 1996; Sheppard and Tuchinsky, 1996). The notion of deterrence in promoting organizational reliability through the normative dimension is also strongly associated with the dimensions of status and power, as certain amount of authority is needed to give sanctions.

Literature also indicates the importance of trust across such essential organizational dimensions as centralization, differentiation and formalization. McEvily and Zaheer (2004) investigate the formation of trust in geographically dispersed

networks. The authors conclude that while building the momentum of trust through enforcement of norms and interaction, decentralized organizations benefit from a moderating agency that provides the network units a physical venue for meeting, information exchange and strategy unification. The authors also point out that trust within decentralized organizations increases through promotion of shared interests and development of common expectations. Zolin and Hinds (2004) suggest that trust among distributed workers remains stable and persists on the level it started out with, which is, the high levels of trust in the beginning remain high.

Creed and Miles (1996) discuss the influence of trust in newly developed organizational forms – matrices, functional forms, networks and diversified divisions. The authors conclude that in a matrix setting low levels of trust result in centralization of decision-making. Lack of trust in functional forms (short-term delegation of tasks to functional specialists within organizations) tends to lead to the decrease of morale and efficiency among the delegated specialists. Diversified divisions (defined as "clustering sets of self-sufficient resources around a particular product, service or geographical area" (p. 25)) also require high levels of trust in order for yielding all the benefits of the decentralization (increased speed of operations, high effectiveness due to employees' expertise and lower cost).

Co-Workers' Character and Behavior

Trust in co-workers moves the idea of interpersonal matter onto a different level, as in a formal bureaucratic setting, interactions are based on the notion of impersonality (Weber, 1914). Sitkin and Roth (1993) identify two key aspects that influence the development of trusting behaviors on horizontal level: perceived task reliability of the

employee, and expectations of shared system of values among peers. This notion is also emphasized in Rotter (1971, 1980) who suggests that interpersonal trust in organizations forms through mutual expectations of the parties' reliability within an organization.

Other studies, however, show that trusting behaviors do not automatically assume peer loyalty to other peers or to the organization itself (Sabel, 1993). Powell (1996) argues that as willingness to cooperate triggers the development of vulnerability among the parties involved, continuous monitoring of such relationships is necessary. The author suggests that such monitoring is easier to enable and maintain through peer network on a horizontal level, rather than through supervisors downward. Oliver and Montgomery (2001) propose the cybernetics model of organizational trust. The authors argue that it is the information exchange and mutual feedbacks that shape the level of trust in organizations. According to their proposition, changes in overall trusting atmosphere in an organizational setting are affected by the changes between each of the interacting dyads.

Burt and Knez (1996) state that trust is "by definition interpersonal, but rarely private" (p. 69), as people are usually surrounded by a network of various third parties, and these indirect connections tend to have an intense effect on the formation of trust. Zolin and Hinds (2004) suggest that the mere perception of trustworthiness among the trusting parties rests on their perceived reliability – their ability to follow through on commitments.

A variety of studies also suggests that co-workers are more likely to share information in organizational settings under the conditions of high trust levels, and as an outcome of such sharing, performance improves (Klimoski and Karol, 1976; Clegg et al.,

2002). Clegg et al. (2002) proposed that presence of trust in organization increases organizational creativity and willingness to generate ideas. The authors also note the increase in commitment to their workplace.

Trust in co-workers has been found to increase a worker's preference for working in a team with those co-workers (Kiffin-Petersen & Cordery, 2003). Trust among group members prevents task conflict from transferring into relational conflict (Peterson & Behfar, 2003) and is positively correlated with perceived task performance, team satisfaction, and relationship commitment while being negatively related to stress (Costa, Roe, & Taillieu, 2001).

In their study of geographically dispersed work-teams, Zolin and Hind (2004) proposed that geographically removed co-workers might develop more tendency to trust their remote peers because maintaining continuous monitoring is perceived too time consuming and difficult. The collocated co-workers, however, tend to have a more salient sense of interdependency, which leads to reduced levels of trust.

In her review of existing research on images of trustworthiness, Elsbach (2004) distinguishes between three major tactics that allow fostering the sense of interpersonal trustworthiness among organizational peers: self-presentation (including title references and self-disclosure), choice of language (comprehensive or technical, formal or informal) and physical appearance (dress, facial expressions, posture).

Ideational problem-solving groups with high trust outperform groups with low trust (Klimoski & Karol, 1976). Zand (1972) notes that while trust level may not be relevant in highly structured tasks, in less highly structured tasks "given similar member

competence, groups that develop high trust would solve problems more effectively than low trust groups" (p. 237).

Edmondson (2004) states that peer trust is a prerequisite for the development of psychological safety – "feeling able to show and employ one's self without fear of negative consequences to self-image, status or career" (Kahn, 1990, p. 708). The author suggests that through its contribution to the development of psychological safety, trust affects organizational learning, sustainability under uncertainty and adaptability to change.

Discussing the formation of interpersonal relationships at a workplace and their influence of the dynamics of trust, Butler and Cantrell (1994) note that in a professional setting development of trust is affected mostly by communication related to working tasks and career (*i.e.,* job-related). However, other research on interpersonal trust at work (Bradach and Eccles, 1989; Schein, 1993) points out that regular contact and repeated interactions with co-workers by itself could also promote the development of trust. Ruppel and Herrington (2004) argue that open and regular horizontal communication between employees is influenced by the presence of "ethical work climate" that is defined as the climate that "emphasizes human relations and employee interests" (p. 317).

Bromiley and Cummings (1995) state that general idea of working together requires a certain level of trust formed between the colleagues. The same notion is found in Fukuyama (1995) who argues that willingness to cooperate among strangers is a stepping stone to success of large organizations. Examining the phenomenon of "swift trust" Myerson, Weick and Kramer (1996) note that under the high pressure and time constraints of specific projects, team members who have little or no mutual history are

forced to develop an immediate mutual trust in order to successfully complete the group task. Cummings and Chervany (1998) emphasize that during modern corporate restructurings and merges that bring together employees from different organizations and organizational cultures, inter-employee trust becomes especially crucial for proper organizational functioning. Wicks, Berman and Jones (1999) argue that understanding of mutual interdependency contributes to fostering a stronger trusting bond between the parties.

Presenting their model of betrayal at a workplace, Elangovan and Shapiro (1998) propose that socialization between the employees helps minimization of workplace betrayals that do, in turn, negatively affect the organizational morale, performance and, as a consequence, outcomes. In his review of trust literature Kramer (1999) notes that the employee-employee trusting relationships have an effect on "spontaneous sociability" – various forms of "cooperative, altruistic, and extra-role behavior in which members of social community engage, that enhance collective well-being and further the attainment of collective goals" (p. 583). Consequently, the increase in interpersonal trust in an organizational setting leads to increase in positive social behaviors.

Interactions Outside of the Organization

The notion of outside of the organization interactions between organizational members stem from several areas of research: studies of social capital and social cohesion. Implied by much of the trust research is the notion that organizational members who develop trust with their co-workers will interact with those co-workers more and in different ways than they will with co-workers whom they do not trust. Gabarro (1990) notes that social relationships exist within and outside of the workplace. In fact, when co-

workers feel affiliation as part of that social relationship with others in their organization, they are more likely to communicate with them (Leana & Van Buren, 1999). Affiliation behavior fits within Lewicki and Bunker's conceptualization of identification-based trust, a form of trust in which co-workers harmonize with each other, "effectively understanding and appreciating the other's wants . . . to the point that each can effectively act for the other" (1996, p. 123). While many co-worker relationships will not achieve that level of trust, it is not unreasonable to expect that some will. Adding Weick's (1979) notion of partial inclusion allows us to presume that co-workers who trust one another to a fairly high extent will interact outside of work, as they will be unable to completely separate their social relationships internal to the organization and those that are enacted with co-workers outside of working hours.

Development of interpersonal relationships between co-workers outside of the working environment allows for development of strong interpersonal bonds between the employees, which contribute to the development of the overall group cohesion. Feistengier, Schanter and Black (1950) conceptualized cohesion as a field of forces constructed of two dimensions: attractiveness of the group and the degree to which group assisted its members in achieving their goal. This outlined the distinction between the social and task cohesion. Various studies focused on conceptualizing group cohesion as a multidimensional phenomenon and developed in two directions: a) functional, such as task vs. social cohesion, and b) directional, such as vertical vs. horizontal cohesion. Both directions, however, were connected in the studies with their effect on the group performance. Zaccaro and Lowe (1988) determined that task cohesion has more influence on the group performance than social cohesion; yet, the highest group performance was

achieved when both, task and social cohesion levels were high. Zaccaro (1991) suggested that task cohesion increases the level of compliance with attendance norms and enhance behavioral norms related to role performance.

Bliese & Halverston (1996) examined effects of vertical and horizontal cohesion in the military. Vertical cohesion reflects the degree of unity between superior and subordinates and relates to the perceptions of leadership and its role in promoting group's cohesiveness. Horizontal cohesion refers to the development of affective ties between the peers within the group; thus, it is similar to the interpersonal cohesion. The study has shown the presence of positive relationships between the two types of cohesion.

Carron's studies of cohesiveness in sports team (Carron et al., 1985; Carron, 1988) constructed a hierarchical model of cohesion that differentiated between group integration and individual attraction to group, and examined relationships between task and social cohesion within each of the two elements. Bollen and Hoyle (1990) suggested the presence of "objective" and "subjective" dimensions to the construct of cohesiveness and proposed a definition of "perceived cohesion" that is emphasized by the subjective approach. As "subjective" cohesion was proposed to measure through assessing every group member's opinion about the level of group's unity and the degree to which they perceive themselves as a part of the group. Bollen and Crawford (1994) determined that the sense of belongingness to the group is closely related to the outcomes of the group actions, while individual achievements are correlated with morale.

Jehn and Shah (2003) supplement these findings through testing eight hypothesis concerning the outcomes and morale of friendship versus acquaintance groups in work settings. The study supports the notion that friendship groups tend to engage in planning

and task monitoring more than acquaintance groups, as well as engage in other behaviors and interactions that benefit the completion of the task. Tesser and Smith (1980) suggest that friendship groups tend to demonstrate higher achievements in organizational task completion due to the fact that while poor performance and outcomes have a negative effect on the group image, it is less complicated to distance oneself from an acquaintance group than from a friendship group that becomes a part of one's identity. Mullen and Copper (1994) also noted that directional relationships between cohesiveness and performance have shown that increase in performance is more likely to influence increase of the in-group cohesiveness.

Measuring Organizational Trust

Organizational trust was measured by various studies since the early 1960s, thus, a number of measuring instruments were developed for this purpose. Viewing trust as an interpersonal phenomenon, researchers concentrated on two basic dimensions of the subject: trust in specific others (Chun & Campbell, 1974; Wheeless & Grotz, 1977; Lazerele & Huston, 1980; Jonson-George & Swap, 1982) and trust in generalized others (Rotter, 1967; Wrightsman, 1974; Butler, 1991). While evaluation of trust toward specific others is focused on interactions with particular communication partners, trust in generalized others is perceived as a personality trait revealing a personal ability to trust others. Both perspectives are based on individual's expectations of another party's behaviors, where the expectations are built upon a person's previous experiences with trust (Couch, Adams & Jones, 1996; 1997). Trust in specific others is generally knowledge-based, as it is a result of another party's actions that have proven it reliable and trustworthy (Interpersonal Trust Scale, Chun & Campbell, 1974; Individualized Trust

Scale, Wheeles & Grotz, 1977; Interpersonal Trust at Work, Cook & Wall, 1980; Dyadic Trust Scale, Lazerele & Huston, 1980; Specific Interpersonal Trust, Johnson-George & Swap, 1982; Interpersonal/ Organizational Trust Survey, De Furia, 1999). Trust in generalized others is a result of an individual's overall experience with trust accumulated throughout one's lifetime (Philosophies of Human Nature, Wrightsman, 1974; Interpersonal Trust Scale, Rotter, 1967; Condition of Trust Inventory, Butler, 1991). Thus, various questionnaires applied to measuring organizational trust concentrate solely on trusting relationships between organizational members and their predisposition to trust.

Some instruments that measure trust in organizations, however, were not intended exclusively for this purpose. Such questionnaires as the Organizational Climate Description Questionnaire (Halpin & Croft, 1963), International Communication Association Audit (International Communication Association, 1971-76), Psychological Climate Questionnaire (Jones & James, 1979) and Relational Communication Scale (Burgoon & Hale, 1984) include trust items or scales in the body of instruments as supporting elements that contribute to the wholeness of the subject overview. Trust items and scales operationalized by these instruments are also oriented towards measuring interpersonal trust between members of the organization.

As a brief overview of a variety of organizational trust measuring instruments (Table 1.3) has shown, most of the instruments created before 1990 tend to view organizational trust as a one-dimensional phenomenon and focus on trust as interpersonal matter that exists as a result of interactions between organizational members. Such perception decreases the true value of trust as an influential component of any

organization that occurs as a result of interactions among multiple factors, including, but not exclusively affected by, interpersonal exchanges between the members of the organization. Therefore, applying these instruments to studying trust as a part of organization is irrelevant.

Table 1.3 Instruments For Measuring Organizational Trust

Author	Year	Instrument	Description
Halpin & Croft	1963	**Organizational Climate Description Questionnaire**	Developed for educational settings to measure psychological atmosphere in an organization. Consists of eight scales where trust is one of many and reflects the relationships between academic authorities and the students
Wrightsman	1964, 1974	**Philosophies of Human Nature**	Designed for evaluation of general expectations people have towards generalized others. Views Trustworthiness along with such elements as Altruism, Independence, Complexity of Human Nature
Rotter	1967, 1971, 1980	**Interpersonal Trust Scale**	Measures general predisposition to trust towards other people based on the expectations developed from individual's previous experiences

Table 1.3 Instruments For Measuring Organizational Trust *(continued)*

Author	Year	Instrument	Description
International Communication Association	1971-1976	**International Communication Association Audit (ICA Audit)**	Developed for a complex multidimensional assessment of organization, this instrument is partially related to issues of organizational trust. It allows to collect only general information about the overall trust level in organization
Roberts & O'Reilly	1974, 1979	**Perception of Organizational Communication**	Measures trust on a separate scale, along with scales of accuracy and overload. Focuses on vertical and horizontal communication
Roberts & O'Reilly	1974	**Organizational Communication Scale (OCS)**	Measures trust as one of the components of organizational communication. Does not provide with a possibility of a detailed analysis of the issue
Chun & Campbell	1974	**Interpersonal Trust Scale**	Measures trust towards specific others in vertical and horizontal relationships
Wheeless & Grotz	1977	**Individualized Trust Scale (ITS)**	Developed for measuring the level of interpersonal trust between specific parties
Larzelere & Huston	1980	**Dyadic Trust Scale**	Views trust towards specific others in interpersonal communication
Cook & Wall	1980	**Interpersonal Trust at Work**	Evaluates interpersonal trust in superior-subordinate and peer-to-peer relationships
Jones & James	1979	**Psychological Climate Questionnaire**	Concentrates on perceptions of work roles. Measures trust on the leadership qualities scale, along with such items as work facilitation, upward interaction and goal emphasis. Focuses on trust issues between employer and employees
Johnson-George & Swap	1982	**Specific Interpersonal Trust Scale**	Measures interpersonal trust retained by one party oriented towards a specific other individual

Table 1.3 Instruments For Measuring Organizational Trust *(continued)*

Author	Year	Instrument	Description
Burgoon & Hale	1984	**Relational Communication Scale (RCS)**	Initially designed for self-report it measures Trust/Receptivity dimension as one of the eight basic dimensions studied by Relational Communication theory. Used for both interpersonal and organizational assessments, it provides with information about the status of trust in dyadic settings
Butler	1991	**Conditions of Trust Inventory**	Focuses on upward employees' trust represented by ten dimensions: generalized trust, availability, competence, consistency, fairness, integrity, loyalty, promise fulfillment, openness, and receptivity
Cummings & Bromiley	1995	**Organizational Trust Inventory (OTI)**	Developed for measuring organizational trust in regard to three dimensions: personal reliability, honesty, and decency throughout three stages of behavior: affective, cognitive and intended
Clark & Payne	1997	**Decision to Trust Survey**	Measures employees decision to trust specific others, based on cognitive, emotional and behavioral factors. Permits for measuring trust in upward communication, *i.e.,* employees towards the manager
De Furia	1999	**Interpersonal/ Organizational Trust Survey**	Allows determining employees' opinions about the level of trust in the organization. Oriented on measurements of trust in specific others
Shokley-Zalabak, Eliis & Cesaria	2000	**Organizational Trust Survey**	Perceives trust as a combination of various factors (such as reliability, competence, openness) that results in job satisfaction and organizational effectiveness
Chadwick & Ralston (Judge)	2002-currently	**Organizational Trust Questionnaire**	Measures organizational trust as a combination of six influential factors: a) propensity to trust, (b) co-workers' character and behavior, (c) interactions outside of the organization, (d) organizational structures, (e) boss's character and behavior, and (f) propensity to distrust. Allows for a detailed analysis of organizational trust

Another type of organizational trust assessment is based on models that present trust as a combination of interconnected elements (Organizational Trust Inventory, Cummings and Bromiley, 1995; Decision to Trust Survey, Clark & Payne, 1997; Interpersonal/ Organizational Trust Survey, De Furia, 1999; Organizational Trust Survey, Shokley-Zalabak, Ellis & Cesaria, 2000; Organizational Trust Questionnaire, Chadwick, 2002). These surveys are the most recent, thus, they reflect an overtime development of perception of organizational trust through employing both trust in specific and generalized others as necessary components of trust in an organizational setting. Since people come to an organization with a certain predisposition to trust that they have developed over time, and have an opportunity to observe behavior of other organizational members, measuring both trust in specific and generalized others helps construct an objective image of status of trust in organization.

Most recent instruments view trust through a combination of various factors that influence development of trust in organization. Such factors are determined by the initial model of research and lead to the sought outcomes. Thus, the Conditions of Trust Inventory (Butler, 1991) concentrates on measurements of the trust level between employer and employee. The Organizational Trust Inventory (Cummings & Bromiley, 1996) measures the status of trust in an organization through evaluation of levels of trust that exist between various organizational units -- departments, divisions and teams. Interpersonal/Organizational Trust Inventory (De Furia, 1999) is used as a self- and organizational assessment tool for determining employees' opinions about the level of trust in the organization. The Organizational Trust Survey (Shokley-Zalabak et al., 2000) measures effects of trust on organizational effectiveness and the level of job satisfaction

among employees. These instruments focus on whether the members of the organization trust each other and how the enactment of their trust affects the entire organization.

Chadwick (1998) proposed a model of trust that viewed the phenomenon as a multi-dimensional entity based on the themes outlined in the literature. The model subsequently was supplemented by the development of a tool – Organizational Trust Questionnaire (OTQ) – that combined the elements of organizational structure, individual propensity to trust or distrust, and characteristics of interpersonal relationships on different hierarchical levels (Chadwick & Judge, 2004; Judge & Chadwick, 2005). The basic assumption underneath the OTQ is that the level of organizational trust can be explained and predicted through the individual member's intention to trust, which is affected by the nature of relationships (1) within the organization, (2) among the organizational members and (3) within each organizational member's personal and social life. The concept approaches organizational trust as a part of an organization that is, to some extent, embedded into the mere structure of it. Viewing trust in such manner allows researchers to gain more insight into the atmosphere of an organization and potentially to locate the weaknesses below those resting on the surface.

Despite the fact that the instrument is still in the stage of development, the previous applications of the trial versions of it demonstrated that the proposed structure of six factors holds: propensity to trust, propensity to distrust, interactions outside of the organization, boss's character and behavior, organizational structure, co-workers' character and behavior. The trial versions of the instrument were successfully applied to the military-type organizations and to a small sample of a civilian population. The results

appear to be promising, while more investigation and application of the instrument is necessary.

Organizational Trust in a Professional Bureaucracy

Most of the empirical research on organizational trust was conducted in professional bureaucracies – hotels (Simons, 2002), Carron (1985; 1988). However, no studies focused specifically on such organizations as universities or police, although Mintzberg (1983) discusses them as prime examples of a professional bureaucracy.

For both organizations, trust is a vital quality that allows them to function and achieve their primary organizational goals. As both organizations rely on autonomous functioning of professionals, trusting in appropriate behaviors on the employees' part becomes the key to organizational success. In both cases, the relationships, established between professionals and their customers, require a high degree of discretion on the part of professionals. Defining police discretion, Groeneveld (2005) states that "police discretion exists when officers have some leeway or choice in how to respond to a situation. The fewer the rules about handling incidents and situations, the more discretion officers can exercise" (p. 1) In academic settings, professors also make judgment calls on grading students' work, which, although compliant with the general academic rules and policies, is often based on a certain degree of subjectivity in evaluation. "Coordination and control are handled differently in universities than in other organizations. They are given less ongoing attention, fewer design resources are committed to their accomplishment… An organizational culture consistent with relative inattention to coordination and control is reinforced within universities. Prevailing themes within this culture include academic freedom," states Weick (1984, p. 28).

Examining further structural similarities and differences, it is possible to note that both types of organizations are highly differentiated and consist of two sub-organizational parallel hierarchy that Mintzberg (1983) refers to as “operational core” and “support staff”. In universities the two hierarchies are represented by faculty and administration, in the police – by line and staff. Line functions imply the daily duties that identify police activities: patrol divisions, criminal investigation, intelligence, drug impounding. Staff functions relate to managerial and clerical activities of the organization and include the work of dispatchers, technical services, criminal laboratories and administration (Whisenand & Ferguson,1973; Langworthy, 1986; Alpert & Smith, 1994; Furman, 1997; Doerner & Dantzker; 2000). Figures 1.1 and 1.2 compare structures of the two organizations.

Despite the visible similarities between the two organizational types, they differ vastly on formalization of relationships in the vertical dimension (*i.e.,* superior-subordinate coordination) and centralization of decision-making. According to Swanson, Territo & Taylor (2001), law enforcement agencies adopted a paramilitary type of structure, based on a system of ranks (Table 1.4) and direct authoritative power from the top to the bottom of the hierarchy. Therefore, each lower rank is supervised by an immediate higher title, and is characterized by the presence of different degrees of authority that grows accordingly to the escalation of ranks.

Table 1.4 Traditional Police Ranks

Traditional Ranks
Chief of Police
Deputy Chief
Colonel
Major
Captain
Lieutenant
Sergeant
Detective
Corporal
Officer

Adapted from Swanson, C.R., Territo, L., Taylor, R.W. (2001). Police Administration. Structures, processes and behavior. Fifth edition. Prentice Hall, Inc., p.182

According to Sandler and Mintz (1974), police organizations emphasize "centralized command structure, one-way downward communication in the form of orders, rigid superior-subordinate relationships defined by the prerogatives of rank; impersonality, obedience" in order to increase efficiency of all operations. Van Maanen (1975) noted that employee's ability to conform to superiors becomes the means to fit in among the law enforcement rookies. Such monocratic (Weber, 1914) rigid hierarchical system is deemed beneficial to police operations, as along with offering discretion to the professionals, it also presents a system of accountability, which is especially important granted the power of the law enforcement officers over their customers (Groeneveld, 2005).

Hierarchical systems of universities, although conceptually similar to the one of police, appear to be less rigid. While in traditional law enforcement agencies organizational policies are made on the top of the pyramid by the supervisory core, policy-making in universities is much more dispersed. A variety of studies points out that governance decisions in universities is diffused between the faculty, administration and

the student body (Dressel, 1981; Fincher, 2003). Such practice of decision-making tends to lead to high levels of ambiguity in relation to organizational policy that tend to increase as the size of a university increases.

Figure 1.1 University Structure *(from Mintzberg, 1983, p. 59)*

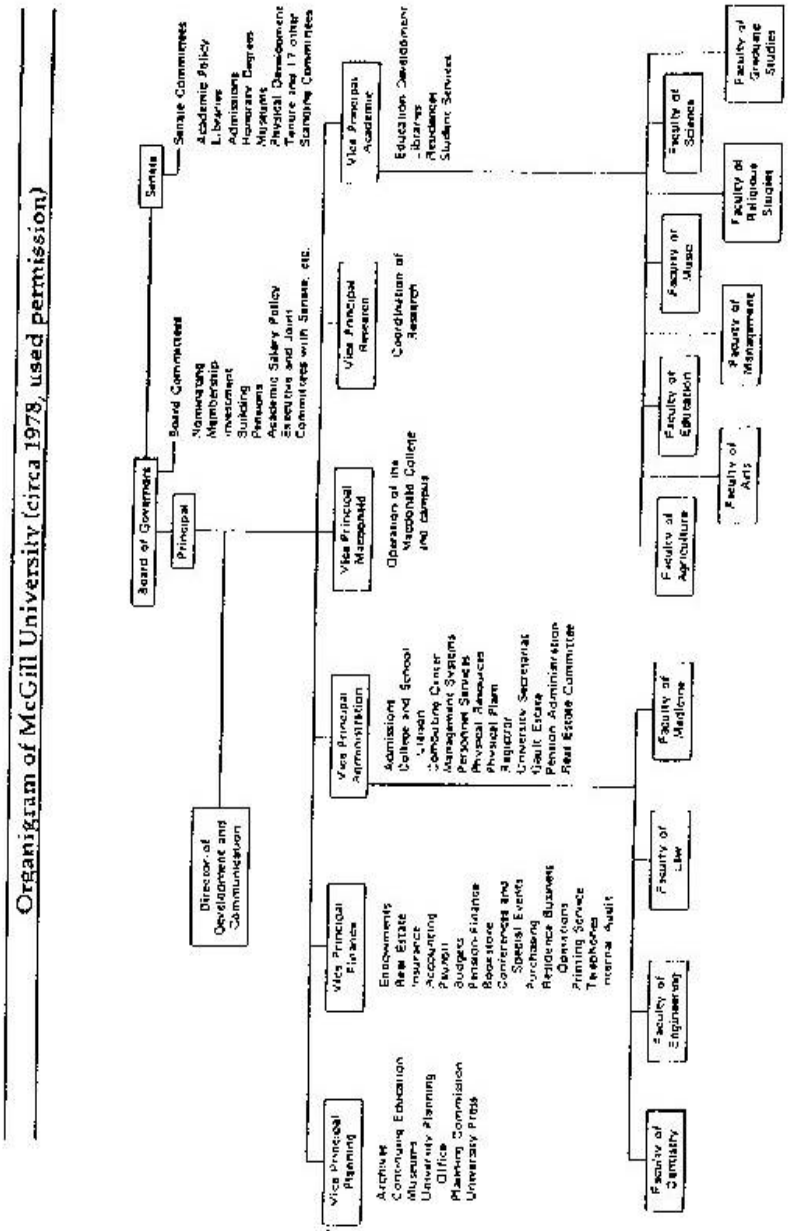
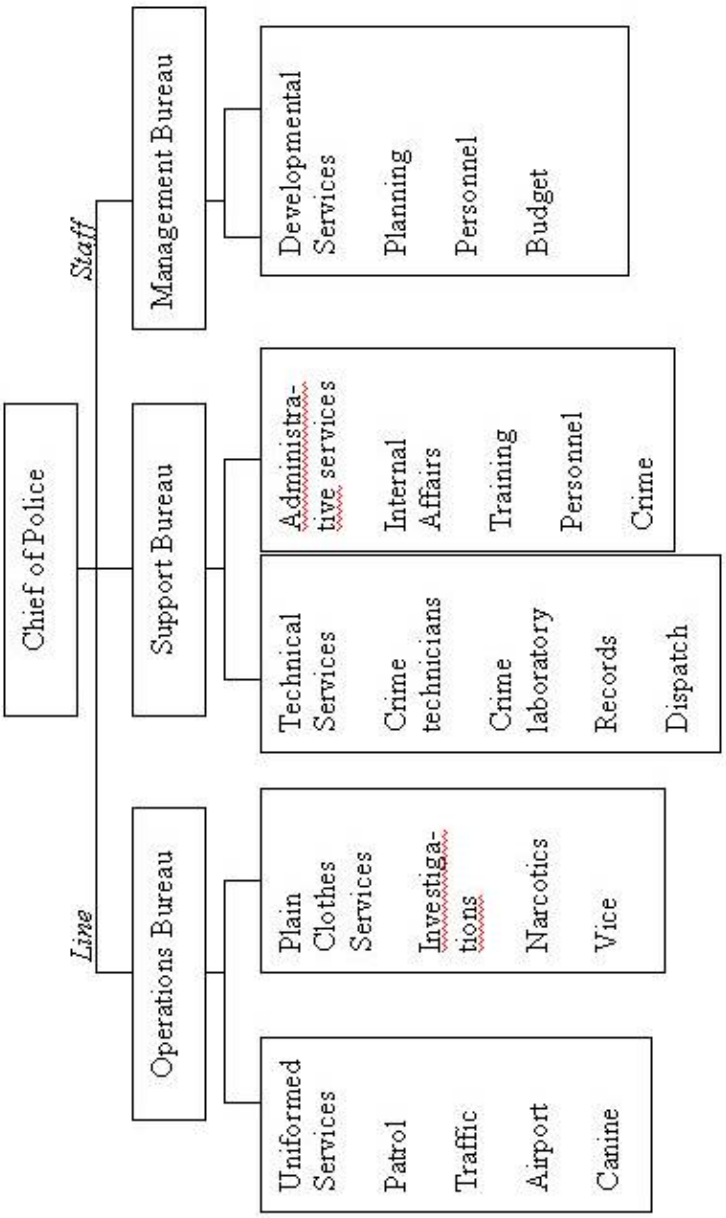


Figure 1.2 Structure of a Police Agency *(adapted from Doerner & Dantzker, 2000)*



In spite of the structural similarities, Adams and Webb (2003) point out that in military-type structures (such as the police organization) development and maintenance of trusting relationships is especially vital. The authors state that due to the increased overall risk, vulnerability and uncertainty involved in the daily routine of the organizational members in a military-type setting, there is an increase in the need of mutual interdependence between the members. This implies that under extreme circumstances on a job, lack of mutual trust could result in fatal consequences.

This notion is strongly supported by various police-specific literature (Whisenand & Ferguson,1973; Langworthy, 1986; Furman, 1997; Doerner & Dantzker; 2000; Swanson, Territo & Taylor, 2001; Groeneveld, 2005). It pertains mostly to the operational core of a law enforcement agency, where the employees have daily exposure to a variety of risks, related to patrolling and responding to the emergency calls from their customers. As the uncertainty in the field work is higher than the office work, the policemen must be able to trust each other for support and necessary defense during their working hours. Adams and Webb (2003) also note that initial trust formation in military-type organizations is usually conditional; however, it can evolve into non-conditional characteristic during the actual collaborative work.

Based on these arguments, it is possible to conclude that in a civilian-type organization, organizational trust, being an instrumental and an important structural element, does not have the same sense of vital importance (therefore, is not necessarily a consciously addressed organizational issue) as it has for a military-type setting. This distinction is mostly due to the fact that the lives of employees of a purely civilian organization (such as universities) are not subjected to high levels of risks and harm on a

day-to-day basis. The similarities and distinctions of two types of professional bureaucracies are summarized in a Table 1.5.

Table 1.5 Similarities and Differences of a Law Enforcement and a University Organizations

	LEO	University
Type	Paramilitary	Civilian
Public resource	Open for general public as a source of services and information	Can be open for both public and private customers as a source of education, information and services
Institutionalized	As a legislative unit of power	As an educational facility
Legislative support	Operates on the state laws and police code of ethics	Operates according to state legislation and the appropriate academic codes
Policy compliance	Downward enforcement of organizational policies and strict following of the policies by employees	A combination of both downward and upward enforcement of organizational policies, a possibility of egalitarian discussion of the policy development and implementation
Organizational goals	To enforce the law upon public and to prevent violations of the law	To provide public with the necessary skills and educational expertise, prepare functional workforce (educational dimension) and contribute to the overall knowledge of various disciplines (research dimension)
Dynamic entity	Evolved over time, employed new communication technologies and forms of organization	Evolved over time, employed new communication technologies and forms of organization
Locus of control	Well-defined vertical structure and presence of authoritative power on each level of the hierarchy. The multiplicity of loci of control is proportional to the organizational size	Well-defined loci of control, presence of authority at the top of the structure The multiplicity of loci of control is proportional to the organizational size

Table 1.5 Similarities and Differences *(continued)*

	LEO	University
Professional freedom	Professionals within the operational core receive a high degree of discretion at their workplace and are allowed and encouraged to make independent decisions that are called for in particular situations on the job	Professionals within the operational core receive a high degree of discretion at their workplace and are allowed and encouraged to make independent decisions that are called for in particular situations on the job
Rank system	Employs system of ranks to establish a chain of command for distribution of authority	Employs civil titles to distinguish between the job duties and responsibilities
Relationships between the ranks	Formal relationships between the higher- and lower-ranking employees	Less formal relationships between superior and subordinates
Promotions	Based on performance, seniority, experience, leadership traits and education	Based on performance and promotion and tenure policy of the university, seniority, experience, leadership traits and other academic achievements
Differentiation	Depends on the size of the establishment. In larger organizations is present and well-defined	Well-defined
Centralization	Consists of multiple hierarchies that vary in their centralization dimension depending on whether the hierarchy belongs to the operational core or to the support staff. The centralization tendencies are higher for the support staff, while operational core is allowed more independence in operations	Consists of multiple hierarchies that vary in their centralization dimension depending on whether the hierarchy belongs to the operational core or to the support staff. The centralization tendencies are higher for the support staff, while operational core is allowed more independence in operations
Vertical Structure	Employees conform to the command from the top of the structure, while are allowed a certain degree of discretion while on the job. The independent decision-making is then reported to the higher-ranks in order to determine the viability of the decision	Employees work independently and are allowed a greater degree of freedom in decision-making
Horizontal structure	Is not prevalent in a traditional setting. More defined in modern agencies that employ networking	Well-defined, balances or exceeds the vertical structure
Dress code	Uniform	No uniform

Hypotheses and Research Questions

Police and university organizations have sufficient common grounds that allow for making a valid comparison between their structural and behavioral practices. The presence of similar structures and various needs for development of solid trusting relationships between different organizational levels permits for applying the Organizational Trust Questionnaire (OTQ) to assess organizational trust in both organizational types.

The existing body of research on trust in organizations takes a social-psychological and exchange theory outlook on the matter. However, the inquiry into the literature introduces the presence of six major factors[2] that influence individual member's intention to trust. This allows for undertaking a structural approach to the issue and investigating the makeup of organizational trust. Earlier applications of the questionnaire to the police organization demonstrated that the suggested factor structure does indeed exist, which prompted methodological interest in the matter. The combination of the interest in the structure of trust as an organizational phenomenon and the methodological inquiry has influenced the nature of the questions pursued in this study. The first research question is:

RQ1: Does the structure of one's intention to trust found in the military-type organizations persist in the civilian-type organizations?

To supplement the first research question, six sub-hypotheses are proposed:

[2] a)propensity to trust, (b) co-workers' character and behavior, (c) interactions outside of the organization, (d) organizational structures, (e) bosses' character and behavior, and (f) propensity to distrust.

H1a: Organizational trust in a civilian organization is influenced by personal propensity to trust;

H1b: Organizational trust in a civilian organization is influenced by personal propensity to distrust;

H1c: Organizational trust in a civilian organization is influenced by employees' interactions outside the organization;

H1d: Organizational trust in a civilian organization is influenced by the elements of organizational structure, such as organizational policies and promotions;

H1e: Organizational trust in a civilian organization is influenced by individual perceptions of co-workers' characters and behaviors (horizontal level);

H1f: Organizational trust in a civilian organization is influenced by individual perceptions of a boss's character and behavior.

Differences in the rigidity of the chain of command between the two organizational types also allow the suggestion that perceptions of a boss's character and behavior will contribute to the variations in the individual's decision to trust. As in the military-type organization it is not appropriate to challenge the decisions of the superiors (effects of centralization and firm hierarchy tendencies), it leads to the second hypothesis:

H2: The influence of a boss's character and behavior on the organizational trust will differ between the civilian and military-type organizations.

Considering the apparent differences between the two organizations rooted in the rigidity of the ranking system and the degree of centralization within an organizational setting, it is important to notice that certain dimensions of organizational trust will be

more or less influential for the organizations of a specific type. Thus, the third hypothesis is:

H3: The influence of structural elements on expressed organizational trust will differ between the civilian and military-type organizations.

The previous research pointed out certain universal traits that contribute to development of trusting behavior among organizational members. These traits refer to various personality and professional characteristics, such as individual's ability to be open, benevolent, reliable and having an appropriate skill level to perform on the job. As these traits were deemed necessary by empirical research on a variety of organization, the second research question suggests:

RQ2: Considering the universal importance of personal characteristics and individual professionalism among co-workers, does their influence on the formation of organizational trust differ in a civilian and a military-type organizations?

As the OTQ (Chadwick & Judge, 2004) was originally created for measuring organizational trust in a law enforcement agency, it has never been applied to a civilian organization, the fourth hypothesis is:

H4: The Organizational Trust Questionnaire, created for assessment of organizational trust in a law enforcement agency, is equally appropriate for assessment of trust in a civilian organization.

METHODOLOGY

The purpose of the study, described in the previous chapter, was twofold: to explore the structural composition of organizational trust in professional bureaucracies and to finalize the validation of a new measuring instrument as well as to find new applications for it. The study employed the Organizational Trust Questionnaire – a newly developed tool for the assessment of organizational trust. The data collection for the study involved both a secondary dataset, obtained in 2000 from a large law enforcement agency; a primary dataset, obtained from the same organization in 2004; and a primary dataset, obtained from a large public university in 2006.

Due to the fact that the data for the study were collected over a period of six years from two different organizations, it is possible to conduct cross-comparisons between samples and to investigate the difference in dynamics of trust between the two organizations. The amount of available data also permits for creating working models of organizational trust and determining whether the same measuring tool (the OTQ) is suitable for applications in both types of professional bureaucracy, such as a law enforcement agency and a university.

Part I: The original scale development

The original version of the Organizational Trust Questionnaire was developed and validated in three main stages: the preliminary survey, the main survey and the short form survey. Each of the stages involved the distribution of the survey to the personnel of Iowa Department of Public Safety (IDPS). The original choice of the participating organization was based mainly on the availability of the subjects and the overall organizational willingness to participate in the project, as at the time of the first wave of research the

organization was preparing for a shift in leadership and structural transitions. As a part of such preparations, the managerial core of the IDPS was interested in conducting the preliminary assessment of the state of organizational trust, in order to anticipate potential difficulties related to the upcoming transformations.

The Iowa Department of Public Safety, headquartered in Des Moines, IA, is the main state law enforcement entity that carries out its duties throughout the entire state. It consists of five major divisions: 1) Division Of Administrative Services, 2) Division Of Criminal Investigation, 3) Division Of Narcotics Enforcement, 4) Division Of State Fire Marshal, and 5) the Iowa State Patrol (Figure 1.2). Each division is supervised by a Division Director, except the Iowa State Patrol division, where the "Chief" is the top supervisory title. Until the year 1999, the IDPS was operating on the traditional paramilitary system of ranks; however, by 2000 the ranks in four divisions were substituted by alternative civilian titles (Table 2.1). The Iowa State Patrol is the only part of the structure that did not change the system of ranks. Although the system of ranks was transformed, 65% of the IDPS personnel were still sworn police officers. Thus, the change in the formal structure of the organization did not change the perception of organizational issues by the employees or the structural and communicational traditions inside the organization.

During the first stage, a series of open-ended questions was distributed to the source in order to obtain a variety of behavior- and character-related statements that, according to the respondents, affect their development of trust. The items obtained during the preliminary stage were used to assemble the main survey instrument that was

distributed to the subjects during the second stage for the main data collection and further analysis.

Table 2.1 Traditional Police Ranks vs. Alternative Titles

Traditional Ranks	Alternative Titles
Chief of Police	Director
Deputy Chief	Assistant Director
Colonel	Division Director
Major	Inspector
Captain	Commander
Lieutenant	Manager
Sergeant	Supervisor
Detective	Investigator
Corporal	Senior Officer/ Master Patrol Officer
Officer	Public Safety Officer/ Agent

Adapted from Swanson, C.R., Territo, L., Taylor, R.W. (2001). *Police administration. Structures, processes and behavior*. Fifth edition. Prentice Hall, Inc., p.182

The second stage involved the exploratory and confirmatory factor analysis procedures that allowed constructing the final version of the questionnaire and obtaining its construct validity and reliability scores. The finalized form of the Organizational Trust Questionnaire was distributed to the same population of respondents four years later along with two other previously validated instruments created for the purposes of measuring organizational trust. Thus, the concurrent validity scores were established, along with new construct validity and reliability scores.

Stage 1: the Preliminary Survey

The review of existing literature has shown an emergence of six potential themes of organizational trust: propensity to trust, propensity to distrust, boss's character and behavior, co-workers' character and behavior, organizational structure and interactions outside the organization. Following these themes, a preliminary survey was constructed. It included seven generic open-ended questions related to the corresponding themes (Table 2.2). Schuman and Presser (1981) state that obtaining the primary information

about the relevant characteristics directly from the source allows improving the reliability of the finalized instrument. Therefore, the primary survey was then distributed to the source in order to identify those aspects of trust found important by organizational members.

Table 2.2 Preliminary Survey Questions

Theme Represented	Question
1. Co-workers' character and behavior 2. Boss's character and behavior	In your experience, what do other people in the organization do that results in you trusting them more?
1. Co-workers' character and behavior 2. Boss's character and behavior	In your experience, what do other people in the organization do that results in you trusting them less?
1. Organizational structures	In your experience, what aspects of the organization (*e.g.,* policies, procedures, hierarchy, etc.) make it easier to trust others in the organization?
1. Organizational structures	In your experience, what aspects of the organization (*e.g.,* policies, procedures, hierarchy, etc.) make it harder to trust others in the organization?
1. Interactions outside of the organization	In your experience, what happens outside of working hours that makes it easier to trust others in the organization?
1. Interactions outside of the organization	In your experience, what happens outside of working hours that makes it harder to trust others in the organization?
1. Propensity to trust 2. Propensity to distrust	Consider the degree to which you trust people in your organization when you first meet them. Explain what influences the extent to which you will trust them.

The survey was distributed between 922 employees of the IDPS that committed to participating in the study. 272 questionnaires were returned, which produced the response

rate of 29.5%. In order to maximize the likelihood that the employees would respond to the survey, the questions were randomly assigned to the sample. Three-fourths of the sample received two questions to answer. One-fourth of the sample received one question to answer. 822 unique responses to the seven questions were obtained.

The statements then were aggregated into a spreadsheet and inspected for redundancy of answers across respondents by two coders, blind to the purpose of the study. After examining the entire dataset, the coders reached a 100% agreement in regard to the redundancy of obtained statements. All but one duplicate answer was left per each set of redundant responses, while the rest of the repeated statements were eliminated. Thus, the final set of responses included 135 unique statements about the instances that the respondents deemed to have an important influence on the development of trust.

Stage 2: the Main Survey

The main survey, developed as a result of the first stage, was distributed between the total of 384 sworn and civilian employees of Iowa Department of Public Safety. The total sample comprised 38% of the total population of the organization with the total of 1,002 employees. 268 surveys (27 % of the total population and 70% return rate of the sample) were returned. The sex ratio among the employees who responded to the survey was 62 female and 206 male with the average age of 40.3 years. 72 respondents reported to be civilians, 196 respondents were sworn employees. The average time of employment with the studied organization was reported as 13.5 years. After the returned surveys were examined and filtered for incomplete items, and incomplete surveys were taken out of the dataset, the total of 242 responses was used in the analysis.

The initial questionnaire contained 135 Likert-type items assessing levels of trust as affected by individual propensities to trust/distrust (41 item), co-workers' messages and behavior (64 items), boss's messages and behaviors (13 items), organizational structures (nine items) and external factors (eight items). The answers ranged from *one* to *seven*, where *one* was equal to *Strongly Disagree*, *four* to *Neutral* or *Unsure* and *seven* indicated *Strongly Agree*.

Procedures

To produce a model of organizational trust with an accompanying measure, the initial pool of questions was reduced to 35 items. The process of reducing the initial data for the questionnaire and subsequent analysis of model adequacy and the overall goodness of fit consisted of three stages: logical reduction, exploratory factor analysis (EFA), and a series of linear regressions.

Logical Reduction

This step preceded the actual statistical analysis and included manual reduction of the question pool. Each question was examined from the three major standpoints: definition exhaustiveness, believability and overall relevance to the subject matter.

The first criterion aimed at identifying questions that incorporate the least ambiguity and could provide the most homogeneous understanding of the implied constructs. Thus, questions such as "People in my organization do what they say they will do" were left in the pool, while questions such as "I have worked with co-workers long enough to know them" that allow a variety of understandings were removed. The second criterion was concerned with the factual representation of the logical sequence of the described events. Thus, questions like "When I first meet a co-worker, I do not trust them

if they do sneaky things behind my back" were omitted, as it is unlikely for individuals to be able to identify such behaviors of the other party upon the first meeting. The third criterion referred to questions that do not seem to have a direct influence on the matter of organizational trust, such as "My organization changes as a result of surveys it conducts."

In order to reduce subjective biases at this stage of the questionnaire reduction, two coders independently examined the entire pool of questions and coded each by *zero – Leave in the pool* and *one – Remove from the pool* accordingly. The results were then compared to determine intercoder's reliability using Scott's pi ($\pi = .792$). Overall, 55 questions were eliminated from the initial list, and further manipulations involved 80 remaining questions.

Exploratory Factor Analysis (EFA)

The initial EFA procedure was performed using SPSS v11.0. 20 of the remaining 80 questions were negatively worded; therefore, they were reverse-coded in order to provide consistent analysis. Thus, on the scale from *one* to *seven*, *one* became *Strongly Agree*, *four* -- *Neutral* or *Unsure* and *seven* indicated *Strongly Disagree*.

The reduction of data through EFA was accomplished in seven rounds using the principal components method in order to obtain the utmost salience of the factor structure. Rounds one through six requested a Varimax rotation with maximum number of iterations of 25 and eigenvalues = 1. The elimination of questions performed during rounds one through four followed two criteria: a) only clusters of three and more questions were considered a factor (Bollen, 1980); b) questions that loaded into more than one factor with differences in factor loadings no more than .1 were omitted. A total of eleven questions were eliminated, and seven factors were clearly identified during

rounds one and two. During the third round, factor seven was closely examined. Comprised of three questions that dealt with gossiping behavior, it showed redundancy in the way the questions were formulated. Thus, as item “People in my organization talk behind each others' backs” was reverse-coded for consistency, it produced the same meaning as the item “People in my organization do not gossip about others.” The first item of the two items in question (“People in my organization talk behind each others' backs”) was taken out of the survey due to its redundancy and less parsimonious wording than the other of the two items, and the EFA procedure was repeated in order to identify the presence of another question that could take its place in the cluster. No such questions were found during the subsequent rotations; therefore, the remaining two items were eliminated during the fourth round.

Round five showed a loading of eight factors, where no questions loaded on components seven and eight. Six factors identified in preliminary rotations held strong with all factor loadings significant ($p < .05$). For further reduction of the questionnaire, all questions with $r < .600$ were eliminated. A total of six questions were removed. An exception was made for an item “There are no clear-cut standards for promotions or transfers in my organization” with $r = .593$. This item was subject for elimination during the next round, considering that its factor loading value remained the same. The sixth round of data reduction produced a loading into seven factors with all factor loadings < .600 except for item “My boss provides me information about things that will affect me,” which then was removed from the dataset.

In order to produce a clear loading into emerged factors, the final round of EFA requested a Varimax rotation into six factors. The loading result replicated the pattern

observed during the previous free-loading Varimax rotation and contained a total of 50 questions with all factor loading significant at ($p < .05$) and above $\alpha=.600$. The results of the factor analysis are presented in Table 2.3.

Table 2.3 Factor Analysis of the Organizational Trust Questionnaire (police)

	Factors					
	1	**2**	**3**	**4**	**5**	**6**
001 When I first meet a co-worker, I trust them if they cooperate.	0.834	0.145	0.038	0.161	0.160	-0.006
002 When I first meet a co-worker, I trust them if they are considerate.	0.916	0.197	0.029	0.176	0.168	-0.109
003 When I first meet a co-worker, I trust them if they seem sincere.	0.909	0.215	0.066	0.188	0.204	-0.169
004 When I first meet a co-worker, I trust them based on their willingness to listen.	0.837	0.184	0.064	0.209	0.096	-0.206
005 When I first meet a co-worker, I trust them if they are patient.	0.864	0.161	0.097	0.168	0.161	-0.081
006 When I first meet a co-worker, I trust them if they are helpful.	0.840	0.132	0.074	0.218	0.117	-0.233
007 When I first meet a co-worker, I trust them if they are personable.	0.818	0.140	0.221	0.224	0.096	-0.117
008 When I first meet a co-worker, I trust them if they are respectful.	0.835	0.201	0.118	0.209	0.158	-0.145
009 When I first meet a co-worker, I trust them if they are confident.	0.811	0.117	0.189	0.206	0.140	-0.059
010 When I first meet a co-worker, I do not trust them if they complain.	-0.133	0.015	0.141	0.134	0.015	0.659
011 When I first meet a co-worker, I do not trust them if they gossip.	0.019	0.087	0.123	0.210	0.083	0.509
012 When I first meet a co-worker, I do not trust them if they have a bad attitude.	-0.229	-0.021	0.181	0.150	0.057	0.730
013 My boss plays favorites.	0.106	0.620	0.169	0.356	0.544	-0.103
014 My boss lies.	0.256	0.722	0.136	0.405	0.540	-0.014
015 My boss supervises by threats.	0.138	0.919	0.149	0.345	0.362	0.040
016 My boss supervises by intimidation.	0.160	0.896	0.164	0.391	0.389	0.086
017 My boss does not listen to me.	0.159	0.677	0.074	0.313	0.333	0.001

Table 2.3 Factor Analysis Of The Organizational Trust Questionnaire (police) (*continued)*

	Factors					
	1	2	3	4	5	6
018 People in my organization are willing to do more than what is on their job descriptions.	0.133	0.292	0.339	0.565	0.181	0.160
019 People in my organization follow through when asked to do something.	0.204	0.324	0.193	0.752	0.273	0.121
020People in my organization are dependable.	0.220	0.318	0.356	0.783	0.297	0.297
021 People in my organization are honest.	0.291	0.396	0.335	0.719	0.324	0.282
022 People in my organization are hard working.	0.118	0.283	0.364	0.800	0.194	0.178
023 People in my organization do their jobs.	0.193	0.311	0.234	0.819	0.187	0.186
024 People in my organization take responsibility for mistakes.	0.057	0.396	0.354	0.692	0.396	0.177
025 People in my organization get things done correctly.	0.171	0.398	0.263	0.860	0.298	0.181
026 People are promoted unfairly in my organization.	0.181	0.353	-0.019	0.205	0.852	0.039
027 Policies are rewritten or overlooked for certain people in my organization.	0.124	0.358	0.059	0.220	0.710	0.048
028 People are promoted for playing politics in my organization.	0.078	0.306	-0.065	0.183	0.749	-0.062
029 People in my organization have gotten promoted as a result of violating rules and/or regulations.	0.172	0.337	0.128	0.340	0.665	0.129
030 There are no clear-cut standards for promotions or transfers in my organization.	0.091	0.403	0.135	0.300	0.621	0.131
031 My co-workers and I are friends outside of work.	0.157	0.156	0.859	0.326	0.077	0.163
032 My co-workers and I participate in common hobbies and pastimes.	0.069	0.046	0.644	0.263	-0.011	0.215
033 My co-workers and I eat meals together outside of work.	0.102	0.127	0.679	0.279	0.079	0.083
034 Outside of work, my co-workers and I have families who are friends.	0.024	0.140	0.821	0.268	0.005	0.216
035 My co-workers and I communicate outside of work.	0.121	0.134	0.913	0.325	0.040	0.157

Regressions

To test the fit of loadings on principle components, a series of multiple linear regressions was performed on each factor using SPSS. After performing the EFA, six factors were identified: 1) propensity to trust, consisting of twelve items; 2) co-workers' character and behavior, consisting of 16 items; 3) boss's character and behavior, consisting of seven items; 4) interactions outside of the organization, consisting of six items; 5) organizational structure, consisting of six items; and 6) propensity to distrust,

consisting of three. Variables were entered stepwise, and then the most parsimonious model constructed within each component was used as the core for the finalized questionnaire structure. Thus, the variables that showed no statistical significance or did not add the value to the model (R^2 values) were omitted from the remaining dataset. 15 questions were eliminated during the procedure, so the finalized questionnaire included 35 questions. Regression model summaries are provided in Appendix 1 (p.).

Comrey & Howard (1992) emphasize the importance of identification of a factor construct while more than two factors are predicted to emerge. So, as predicted, six factors emerged and were subsequently extracted. At the post-regression factor loading reported in Table 2, item #2 loaded below .600 (r=.581). Yet, as it was approved through the regression analysis and had shown consistency in loading throughout the entire procedure, it was retained in the questionnaire as approaching the value of .600 at the second decimal rounding.

Propensity to trust. The EFA and regression results provided full support for the existence of this factor. The emerged factor originally included twelve items, however, the number of items was reduced during the stepwise regression analysis to nine. The chosen model explained 96% of the requested factor and is significant at $p < .001$ ($R^2 = .966$, S.E. = .188, $F(1, 226) = 10.443$).

Co-workers' character and behavior. The theme was fully supported by the factor analysis. The factor was comprised of 16 items that were reduced through the stepwise regression analysis down to eight questions. The model explains almost 89% of the factor variance, which is significant at $p < .05$ ($R^2 = .888$, S.E. = .340, $F(1, 227) = 6.946$)

Interactions outside of the organization. The data supported the importance of this theme for the overall state of organizational trust, and six items were identified to comprise the factor. One item was eliminated during the stepwise regression analysis. The model explains approximately 92% of the factor and is significant at $p < .001$ ($R^2 = .918$, S.E. = .288, $F(1, 230) = 28.476$).

Organizational structure. The analysis provided partial support for the existing of this factor. The data reduction and analysis have shown a cluster of questions that directly relate to promotions as a special case of structural elements that was perceived by respondents to be important. The initial understanding of this result is that operating on a contract basis with the organization employees develop a calculus-based trust (Lewicki & Bunker, 1996) rooted in the belief that following the rules and regulations on the employee's part will lead to increase of professional benefits, such as career advancement, on the part of the organization. Thus, promotion practices become a structural element directly related to the employee's well-being within the organization. The cluster is significant at $p< .001$ and explains 88% of the variance ($R^2 = .887$, S.E. = .340, $F(1, 230) = 17.264$).

Boss's character and behavior. The data fully supported the proposed factor. The factor emerged during the EFA consisted of seven items. This number was reduced during the stepwise regression procedure to five questions. The model is significant at $p< .001$ level and explains 85% of the factor ($R^2 = .854$, S.E. = .386, $F(1, 230) = 10.556$).

Propensity to distrust. The theme was fully supported at the $p < .001$ significance level. The initial factor loadings of three questions held strongly during the regression

analysis and suggested to explain 92% of the factor variance (R^2 = .922, S.E. = .280, F(1, 232) = 307.905).

Stage 3: Validation of the Short Form

In order to validate the findings, a confirmatory factor analysis (CFA) procedure was performed on the remaining data. A model with substantive factors was built and analyzed through AMOS software. The model assumed correlations between all the six factors, and the inter-item correlations within the substantive factors. The obtained model was characterized by 517 degrees of freedom and a χ^2=754.974 (p=.000). Despite the fact that the chi-square value is high, the Incremental Fit Index shows a 99% improvement of the model in relation to the statistical independence model estimated by AMOS (χ^2=6771.284, df=595, p=.000). Critical N has also demonstrated that the model meets the minimal requirement of 200 (CN 0.5 = 205, CN 0.1 = 214) that suggests a drastic improvement of fit of the model to the data.

The six factor models were also estimated in order to determine the fit of individual dimensions. Each model was estimated twice – the first set of results depicts the model with uncorrelated errors, the second set demonstrates the improvement of the model through the release of meaningful correlations. Overall, the second set of estimates in all cases demonstrated a significant improvement that indicated that the data and the models fit together well from both theoretical and empirical standpoints. The result breakdown is shown in Table 2.4.

The model for propensity to distrust factor was estimated, but not tested for the overall fit, as the factor was measured by only three indicators that are sufficient for the estimation, yet, not for a hypothesis testing. This model has a zero degrees of freedom

and chi-square that indicates the recursive nature of the model and its relative fit to the data.

Table 2.4 Comparative Indices Of The Goodness Of Fit For The Substantive Factors

	χ^2	DF	P	NFI	RFI	IFI	TLI	CFI	CN.05	CN.01
Propensity to trust										
Model 1	80.444	20	0.000	0.989	0.981	0.992	0.985	0.992	106	127
Model 2	14.505	12	0.270	0.998	0.994	1.000	0.999	1.000	393	490
Co-workers' Character and Behavior										
Model 1	137.373	20	0.000	0.980	0.964	0.983	0.969	0.983	62	75
Model 2	24.616	13	0.026	0.996	0.990	0.998	0.995	0.998	247	305
Boss's Character and Behavior										
Model 1	83.051	5	0.000	0.976	0.927	0.977	0.931	0.977	37	50
Model 2	3.590	3	0.309	0.999	0.995	1.000	0.999	1.000	590	857
Organizational Structure										
Model 1	15.373	5	0.009	0.993	0.980	0.996	0.987	0.996	196	266
Model 2	0.821	1	0.365	1.000	0.995	1.000	1.001	1.000	1269	2191
Interactions Outside of the Organization										
Model 1	3.954	5	0.556	0.999	0.997	1.000	1.001	1.000	759	1034
Model 2	0.028	2	0.986	1.000	1.000	1.001	1.004	1.000	58140	89375

To supplement the results above, the value of the observed variables to the model was estimated along with the general modeling. Table 2.1 lists the unstandardized regression values of indicators assigned to each latent factor. For the estimation purposes, one path in each set was restricted to the value of 1, while others loaded freely. According to the results, all the indicators retained by the model exceed the critical value of 1.96 used to determine the significance of the loadings. This finding is also important for determining the value and strength of the overall model and the preliminary analysis of the OTQ.

Figure 2.1 Unstandardized Regression Weights For The Observed Variables

Regression Weights:	Estimate	S.E.	C.R.
q001 <---------- ptrust	1.000		
q003 <---------- ptrust	1.042	0.045	22.961
q006 <---------- ptrust	1.106	0.057	19.295
q008 <---------- ptrust	0.904	0.057	15.969
q009 <---------- ptrust	0.935	0.054	17.184
q011 <---------- ptrust	0.879	0.055	15.921
q018 <---------- ptrust	0.848	0.057	14.921
q024 <---------- ptrust	0.881	0.057	15.561
q027 <---------- ptrust	0.819	0.054	15.043
q002 <---------- people	1.000		
q010 <---------- people	1.137	0.131	8.686
q013 <---------- people	1.085	0.120	9.014
q014 <---------- people	1.124	0.132	8.530
q025 <---------- people	0.999	0.109	9.176
q033 <---------- people	1.136	0.118	9.635
q031 <---------- people	1.229	0.143	8.604
q028 <---------- people	1.080	0.117	9.250
q004 <---------- outside	1.000		
q017 <---------- outside	1.083	0.087	12.505
q029 <---------- outside	1.185	0.120	9.857
q021 <---------- outside	0.828	0.094	8.829
q030 <---------- outside	1.265	0.123	10.328
q005 <---------- promotions	1.000		
q007 <---------- promotions	0.909	0.083	11.003
q016 <---------- promotions	1.014	0.118	8.623
q023 <---------- promotions	0.986	0.111	8.893
q034 <---------- promotions	1.242	0.123	10.127
q012 <---------- boss	1.000		
q019 <---------- boss	1.175	0.086	13.739
q026 <---------- boss	0.936	0.087	10.767
q032 <---------- boss	0.915	0.087	10.541
q035 <---------- boss	0.877	0.082	10.711
q022 <---------- pdtrust	1.708	0.425	4.020
q020 <---------- pdtrust	0.595	0.300	1.984
q015 <---------- pdtrust	1.000		

Stage 4: Estimation of Concurrent Validity

For the purposes of establishing concurrent validity, the reduced form of the questionnaire was given to the same population along with the short form of the Organizational Trust Inventory (the OTI, Cummings & Bromiley, 1995). The instrument targets the assessment of organizational trust within cognitive, affective and intended behavior dimensions. The authors conceptualize organizational trust as

> "an individual's belief or a common belief among a group of individuals that another individual or group makes good-faith efforts to behave in accordance with any commitments both explicit or implicit, is honest in whatever negotiations preceded such commitments, and does not take excessive advantage of another even when the opportunity is available" (Cummings & Bromiley, 1995, p. 303).

The instrument was previously validated (Cummings & Bromiley, 1995) using structural equation modeling (χ^2=110.3177, df=51, p=.000, GFI: .945, CFI: .98; NNFI: .97).

Due to the conceptualization of trust in each questionnaire, the OTI and the OTQ do not present a redundant measure that is directly comparable to each other; thus, no high correlation between the two was expected. However, the more substantial expectation of the comparison between the two questionnaires was to determine whether the two measures change in the similar direction. The summative scores were constructed for each questionnaire to create the overall trust indices. The indices were then correlated. The results showed presence of a positive statistically significant correlation between the two instruments (r=.135, p=.01). Determining the presence of such relationships between the two measures allows suggesting that the Organizational Trust Questionnaire does indeed aim at the assessment of trust in organization.

During the third stage, a reliability of the instrument was also established. The Chronbach's alpha scores were calculated for the entire questionnaire and each of its factors (as subscales). The results showed that the reliability score for the entire instrument is high α=.956. Zeller & Carmines (1980) state that coefficients above .7 are appropriate. Further analysis of reliability of the sub-scales produced the following results: a) propensity to trust α=.9568; b) propensity to distrust α=.6915, c) boss's character and behavior α=.8838, d) co-workers' character and behavior α=.9046, e) organizational structure α=.8358, and f) interactions outside of the organization α=.8841.

All the coefficients are relatively high, except for the alpha score for propensity to distrust dimension. However, the fact that the coefficient of this dimension is slightly below .7 does not imply the volatility of the scale: Chronbach alpha coefficient is very susceptible to the number of items within the scale, and the propensity to distrust dimension consists of three items only. Thus, for a three-item scale this coefficient could be considered appropriate as well.

As the initial hypothesis was supported by the analysis findings, a confirmatory factor analysis procedure (CFA) was undertaken in order to validate the preliminary findings and determine the value of the measurement items for the model. The remaining text operates with the following terms: *propensity to trust*, *propensity to distrust*, *interactions outside of the organization*, *boss's character and behavior*, *co-worker's character and behavior* and *organizational structure* to attribute to the substantive factors comprising one's intention to trust others in an organization.

Part II: The Validation of the Existing Scale and the Applications to the University

The data collection for this section of the study employed two versions of the OTQ in order to determine the differences in the development of trust within a different type of a professional bureaucracy – a university. Iowa State University (ISU) was chosen as a participating population due to two major reasons: a) a large population available for the study; b) a variety of technological opportunities for collecting the data in a timely fashion.

Iowa State University is a large Midwestern public university that consists of eight colleges, one school, five extension areas and 54 academic departments. The yearly

enrollment accounts for a total of 25,741 undergraduate, graduate and professional students and 13,787 employees. Of the total number of employees, faculty body consists of 1,734 people and another 4,286 permanent employees constitute professional and scientific, and merit personnel. As the focus of the study is the investigation of trust among the permanent employees of an organization, the data were collected from the entire body of the permanent employees of the ISU – 6,020 people, while the remaining portion of the ISU staff (7,767 employees) composed of student- and hourly workers was not surveyed.

Due to the fact that the data were collected during the two weeks concluding the semester, it was important to take into consideration the time constraints and work pressure for the majority of the university employees. Therefore, in order to ensure the timely collection of data, an on-line survey was used as the primary means of reaching the population. The survey was set up in the SPSS Dimension package that allowed for ensuring privacy and anonymity for every respondent.

As the study pursued two distinct goals – the validation of the previously constructed instrument and the investigation of the dimensions of organizational trust in two types of organization – the actual collection of data involved the use of the short form of the Organizational Trust Questionnaire. The short form is the version of the OTQ used in the third stage of Part I of this study – the finalized, 35-item instrument used for the 2004 police dataset, for which the concurrent validity was established.

This form was used in the university sample in order to determine whether the instrument is an appropriate tool for organizational trust assessment in non-military settings (such as university). An exploratory factor analysis and a confirmatory factor

analysis procedures were performed on the data gathered with the short form in order to determine whether the factor structure of individual's intention to trust established in the military-type organization holds in a civilian-type professional bureaucracy.

The instrument employed 35 Likert-type scales to rank possible attitudes towards the question among the ISU employees. The scales were assembled in order from *one* to *seven*, where *one* stands for *Strongly Disagree*, *four* is for *Neutral* or *Unsure* and *seven* indicates *Strongly Agree* (Figure 2.2).

Figure 2.2 Example of scale questions included in Organizational Trust Questionnaire

Question	Strongly Disagree	Disagree Somewhat	Disagree	Neutral or Unsure	Agree	Agree Somewhat	Strongly Agree
My boss follows procedures.	1	2	3	4	5	6	7

Upon the completion of data collection, thirteen questions were reversely coded for interpretation consistency. Five of the recoded questions belong to the Structure factor that resembles employees' perception of the organizational compliance with its own policies. The other five items constitute the Boss's character and behavior factor. All the items were presented to the respondents as negatively worded, in order to maintain the comparative power between the civilian and military-type data. As a result of the reverse coding on these items, the scales became ordered from *one* to *seven*, where *one* stands for *Strongly Agree*, *four* is for *Neutral* or *Unsure* and *seven* indicates *Strongly Disagree* (Figure 2.3).

Figure 2.3 Reversely Coded Questions Included In Organizational Trust Questionnaire

Question	Strongly Agree	Agree Some-what	Agree	Neutral or Unsure	Disagree	Disagree Some-what	Strongly Disagre
Policies are rewritten or overlooked for certain people in my organization.	1	2	3	4	5	6	7
People are promoted for playing politics in my organization.	1	2	3	4	5	6	7
People in my organization have gotten promoted as a result of violating rules and/or regulations.	1	2	3	4		6	7
There are no clear-cut standards for promotions or transfers in my organization.	1	2	3	4	5	6	7
People are promoted unfairly in my organization.	1	2	3	4	5	6	7
My boss plays favorites.	1	2	3	4	5	6	7
My boss lies.	1	2	3	4	5	6	7
My boss supervises by threats.	1	2	3	4	5	6	7
My boss supervises by intimidation.	1	2	3	4	5	6	7
My boss does not listen to me.	1	2	3	4	5	6	7
When I first meet a co-worker, I do not trust them if they complain.	1	2	3	4	5	6	7
When I first meet a co-worker, I do not trust them if they gossip.	1	2	3	4	5	6	7
When I first meet a co-worker, I do not trust them if they have a bad attitude.	1	2	3	4	5	6	7

The initial questionnaire distributed between the employees of the law enforcement agency had also included five demographic items that asked respondents to indicate their sex and age along with the number of years in the law enforcement, their organizational status and their rank. In order to allow for comparison between the datasets, the university employees were asked the same demographic questions plus one

extra – to gain a more detailed insight into the professional core of the organization, *i.e.,* the faculty (Figure 2.4).

Figure 2.4 Comparative Demographic Questions For A Military-Type And A Civilian Organization

Military-type	Civilian
Age at your last birthday: _____	Age at your last birthday: _____
Years in the organization: _____	Years in the organization: _____
Status in the organization (circle one): Sworn Civilian	Status in the organization (circle one): Temporary Permanent
Sex (circle one): Female Male	Sex (circle one): Female Male
Which category most fully describes your position at IDPS: ____ Administrative services ____ Commissioner's office ____ Criminal investigation ____ Narcotics enforcement ____ Fire marshal ____ State patrol	Which category most fully describes your position at ISU: ____ Faculty ____ Professional and scientific ____ Merit Staff ____ Other (please specify): If faculty, what is your rank: ____ Adjunct/similar ____ Tenure-track (Assistant professor or Equivalent) ____ Associate Professor ____ Full Professor ____ University or Distinguished Professor ____ Emeritus ____ Other

Data Collection

The survey was distributed to the employees of the University over the course of the two final weeks of the spring semester in 2006. The questionnaire was posted on a secured server in the Sociology Department and made accessible to the employees through the use of SPSS Dimensions software that allows for the maximum protection of

respondents' identity, thus, ensuring their privacy and anonymity. A suppressed list of the University e-mails was used during the mailing.

The questionnaire was e-mailed to 3,000 University employees of all ranks, excluding the student workforce (both undergraduate and graduate). Such decision was made in order to ensure that all respondents are adult employees whose primary responsibilities at the University grounds is employment, permanent or temporary, but not their education. Making a distinction between student and non-student employees allowed for a closer comparison between the bodies of personnel of the two organizational types.

The mailing was conducted in two waves, where the second invitation was sent a week after the original. The survey yielded 862 responses, which constitutes a 29% response rate from the sample, and 14% of the total population.

Methods of analysis

The analysis of the data employed a variety of techniques. An exploratory factor analysis was performed on the data in order to determine the existing factor structure of organizational trust within a civilian professional bureaucracy. A confirmatory factor analysis was performed next was to validate the developed model. Reliability scores (Chronbach's alpha) were calculated to supplement the validation of the instrument. Then a series of inter-item correlations and paired-sample t-tests was conducted to establish the differences between the factors within a military and civilian-type organizations. Based on the findings, a path analysis procedure was conducted to draw conclusions about the influences between the factors in the model. During the last stage of the analysis, a

demographic investigation was conducted through a series of cross-tabulations with chi-square estimates and a series of regressions.

RESULTS

Exploratory factor analysis results

In order to answer the first research question[3], an exploratory factor analysis was performed on the dataset obtained from the university. The procedure was performed in SPSS 11.1 using Maximum Likelihood extraction method. To ensure maximum clarity in extracting the factors, varimax rotation was used. The factors were extracted under the condition of eigenvalues exceeding the value of one, without other enforcement of the expected number of factors. The rotated factor matrix obtained as a result of the analysis produced the six-factor structure received during the previous analysis of the police data (Table 3.1). This finding allows answering the first research question: indeed, individual's decision to trust in a civilian-type of organization is structured similarly to individual's decision to trust in a military-type organization.

Although the factor structure produced is essentially similar to the structure obtained during the analysis of the police dataset, one question (#28 My boss plays favorites) loaded onto two factors with the subsequent values of r=.568 and r=.446. One potential explanation for such item behavior could be that the question, reading, "My boss plays favorites", is closely related to the questions in the structure dimensions that target "unconstitutional" behaviors in organizations, such as rule-bending for certain organizational members and promoting for political, rather than for merit reasons. None other item from the boss's dimension targets promotional issues. As the difference

[3] **RQ1:** Does the structure of one's decision to trust found in the military-type organizations persist in the civilian-type organizations?

between the two loadings is insufficient to discard the second loading, a complimentary exploratory factor analysis was performed.

Table 3.1 Factor Structure for Individual Intention to Trust in a Civilian Organization

	1	2	3	4	5	6
Q001 When I first meet a co-worker, I trust them if they cooperate.	0.814	0.113	0.079	0.078	0.020	0.031
Q002 When I first meet a co-worker, I trust them if they are considerate.	0.864	0.098	0.000	0.057	0.058	-0.028
Q003 When I first meet a co-worker, I trust them if they seem sincere	0.821	0.132	0.007	0.037	0.062	-0.004
Q004 When I first meet a co-worker, I trust them based on their willingness to listen.	0.828	0.055	-0.021	0.054	0.007	0.051
Q005 When I first meet a co-worker, I trust them if they are patient.	0.838	0.071	-0.003	0.053	-0.010	0.081
Q006 When I first meet a co-worker, I trust them if they are helpful.	0.885	0.121	0.010	0.069	0.045	0.053
Q007 When I first meet a co-worker, I trust them if they are personable.	0.759	0.112	0.001	0.107	-0.047	0.124
Q008 When I first meet a co-worker, I trust them if they are respectful.	0.818	0.126	-0.006	0.047	0.021	0.149
Q009 When I first meet a co-worker, I trust them if they are confident.	0.662	0.109	0.076	0.086	-0.050	0.068
Q010 People in my organization are willing to do more than what is on their job description.	0.120	0.678	0.242	0.084	0.127	-0.033
Q011 People in my organization follow through when asked to do something.	0.179	0.735	0.175	0.076	0.159	-0.002
Q012 People in my organization are dependable.	0.128	0.801	0.207	0.072	0.129	-0.003
Q013 People in my organization are honest.	0.153	0.704	0.321	0.113	0.164	-0.026
Q014 People in my organization are hard working.	0.146	0.788	0.201	0.112	0.066	0.044
Q015 People in my organization do their jobs.	0.143	0.816	0.190	0.058	0.105	0.045
Q016 People in my organization take responsibility for mistakes.	0.098	0.694	0.313	0.099	0.125	-0.019
Q017 People in my organization get things done correctly.	0.099	0.773	0.209	0.041	0.131	0.034
Q018 My co-workers and I eat meals together outside of work.	0.103	0.079	0.008	0.649	0.091	-0.051
Q019 My co-workers and I are friends outside of work.	0.114	0.140	0.022	0.820	0.064	-0.001
Q020 My co-workers and I participate in common hobbies and pastimes.	0.047	0.078	-0.002	0.687	-0.031	0.003
Q021 Outside of work, my co-workers and I have families who are friends.	0.103	0.038	0.072	0.766	-0.029	-0.021
Q022 My co-workers and I communicate outside of work.	0.062	0.083	0.069	0.907	0.003	-0.003
Q023 Policies are rewritten or overlooked for certain people in my organization.	0.004	0.283	0.626	-0.022	0.116	-0.007
Q024 People are promoted for playing politics in my organization.	-0.001	0.222	0.782	0.022	0.126	0.009

Table 3.1 Factor Structure for Individual Intention to Trust *(continued)*

	1	2	3	4	5	6
Q025 People in my organization have gotten promoted as a result of violating rules and/or regulations.	0.036	0.354	0.656	0.042	0.154	0.002
Q026 There are no clear-cut standards for promotions or transfers in my organization.	-0.006	0.240	0.507	0.070	0.129	-0.092
Q027 People are promoted unfairly in my organization.	0.043	0.284	0.756	0.041	0.201	-0.042
Q028 My boss plays favorites.	0.013	0.241	0.568	0.044	0.446	0.016
Q029 My boss lies.	0.040	0.297	0.481	0.058	0.590	0.074
Q030 My boss supervises by threats.	-0.008	0.240	0.262	-0.001	0.818	0.034
Q031 My boss supervises by intimidation.	0.011	0.201	0.260	0.037	0.850	0.049
Q032 My boss does not listen to me.	0.028	0.296	0.454	0.046	0.563	0.059
Q033 When I first meet a co-worker, I do not trust them if they complain.	0.096	-0.100	-0.013	0.002	0.023	0.622
Q034 When I first meet a co-worker, I do not trust them if they gossip.	0.024	0.086	-0.023	-0.106	0.050	0.524
Q035 When I first meet a co-worker, I do not trust them if they have a bad attitude.	0.220	0.024	-0.020	0.071	0.013	0.741

The second procedure was conducted under the same general condition of extraction and rotation, with the only exception that the initial file was split into the three major demographic groups: faculty, professional and scientific and merit employees. Separating the data in such a way was necessary in order to examine the presence of any confounding characteristic that influence the course of the analysis.

The occupational difference was chosen for the investigation due to the primary difference embedded into the operations of the faculty – the "operational core" of the organization that is allowed a wide variety of workplace freedom and flexibility – versus the merit employees whose daily routine follows the generic bureaucratic stipulations (hierarchical rigidity, abundance of rules and regulations, specialization).

Examination of the three matrices obtained as a result of the procedure demonstrated that the question produces a double loading regardless of the occupation of the respondents (Appendix 2). Such outcome suggests that the item is not serving as an

appropriate measure under the new conditions of applying the instrument to a civilian-type organization. As one of the goals of this project is to create a parsimonious model of individual's decision to trust in organization, the item was removed, which helped reducing the overall number of variables in the model and slightly improve the model's fit. Considering the removal of the item, further analyses included the confirmatory data analysis in order to validate the use of the OTQ for a civilian organization performed on the 34-item dataset, and also operations with the full 35-item dataset to compare the development of individual's decision to trust in the organizations of both types (civilian vs. military-type).

After eliminating question 28 a new matrix was produced to see if there are any other discrepancies in the model. Examination of the new matrix demonstrated clear loadings among the remaining indicators and a slight improvement of the loading for questions 26 and 29 ("There are no clear-cut standards for promotions or transfers in my organization" and "My boss lies") by .005 each. The new loadings are demonstrated in Table 3.2.

Table 3.2 New Structure for Individual Intention to Trust in a Civilian Organization

	1	2	3	4	5	6
Q001 When I first meet a co-worker, I trust them if they cooperate.	0.814	0.113	0.083	0.079	0.022	0.032
Q002 When I first meet a co-worker, I trust them if they are considerate.	0.864	0.097	0.001	0.057	0.057	-0.027
Q003 When I first meet a co-worker, I trust them if they seem sincere.	0.821	0.133	0.007	0.037	0.061	-0.003
Q004 When I first meet a co-worker, I trust them based on their willingness to listen.	0.828	0.056	-0.022	0.054	0.006	0.051
Q005 When I first meet a co-worker, I trust them if they are patient.	0.838	0.073	-0.007	0.053	-0.010	0.081
Q006 When I first meet a co-worker, I trust them if they are helpful.	0.885	0.123	0.007	0.069	0.044	0.053
Q007 When I first meet a co-worker, I trust them if they are personable.	0.758	0.113	-0.001	0.107	-0.047	0.124

Table 3.2 New Structure for Individual Intention to Trust *(continued)*

	1	2	3	4	5	6
Q008 When I first meet a co-worker, I trust them if they are respectful.	0.818	0.127	-0.009	0.047	0.021	0.149
Q009 When I first meet a co-worker, I trust them if they are confident.	0.662	0.111	0.073	0.087	-0.047	0.069
Q010 People in my organization are willing to do more than what is on their job description.	0.120	0.684	0.225	0.084	0.127	-0.033
Q011 People in my organization follow through when asked to do something.	0.178	0.738	0.161	0.076	0.157	-0.003
Q012 People in my organization are dependable.	0.127	0.804	0.194	0.072	0.129	-0.003
Q013 People in my organization are honest.	0.153	0.708	0.311	0.114	0.168	-0.025
Q014 People in my organization are hard working.	0.146	0.792	0.188	0.112	0.065	0.043
Q015 People in my organization do their jobs.	0.142	0.821	0.172	0.058	0.103	0.044
Q016 People in my organization take responsbility for mistakes.	0.097	0.701	0.296	0.099	0.127	-0.019
Q017 People in my organization get things done correctly.	0.098	0.778	0.193	0.041	0.130	0.033
Q018 My co-workers and I eat meals together outside of work.	0.103	0.078	0.010	0.649	0.090	-0.051
Q019 My co-workers and I are friends outside of work.	0.114	0.140	0.021	0.820	0.063	-0.001
Q020 My co-workers and I participate in common hobbies and pastimes.	0.047	0.079	-0.006	0.687	-0.033	0.003
Q021 Outside of work, my co-workers and I have families who are friends.	0.103	0.041	0.068	0.766	-0.028	-0.020
Q022 My co-workers and I communicate outside of work.	0.061	0.084	0.066	0.907	0.004	-0.003
Q023 Policies are rewritten or overlooked for certain people in my organization.	0.003	0.296	0.610	-0.021	0.132	-0.005
Q024 People are promoted for playing politics in my organization.	-0.003	0.237	0.768	0.023	0.148	0.012
Q025 People in my organization have gotten promoted as a result of violating rules and/or regulations.	0.034	0.362	0.654	0.043	0.169	0.006
Q026 There are no clear-cut standards for promotions or transfers in my organization.	-0.007	0.245	0.512	0.070	0.141	-0.090
Q027 People are promoted unfairly in my organization.	0.042	0.293	0.762	0.041	0.218	-0.038
Q029 My boss lies.	0.038	0.314	0.447	0.059	0.595	0.074
Q030 My boss supervises by threats.	-0.008	0.249	0.240	0.000	0.827	0.034
Q031 My boss supervises by intimidation.	0.010	0.210	0.235	0.038	0.859	0.050
Q032 My boss does not listen to me.	0.027	0.315	0.414	0.047	0.565	0.059
Q033 When I first meet a co-worker, I do not trust them if they complain.	0.096	-0.100	-0.014	0.002	0.025	0.623
Q034 When I first meet a co-worker, I do not trust them if they gossip.	0.023	0.084	-0.021	-0.106	0.051	0.524
Q035 When I first meet a co-worker, I do not trust them if they have a bad attitude.	0.219	0.025	-0.022	0.071	0.013	0.741

Confirmatory factor analysis results

After the exploratory factor analysis supported the factor structure of individual intention to trust in an organization suggested by the analysis of a military-type organization, a confirmatory factor analysis procedure was conducted in order to validate the presence of the indicators and the latent factors. The analysis was conducted in two stages – the estimation of a null model that assumes no inter-item correlations within or between the factors, and the estimation of a new model emerging after the examination of the modification indices for the error correlations.

Due to the fact that one question produced a double loading on two factors during the exploratory phase of the analysis and was later eliminated, overall four models were estimated. Two models (the pre- and post-modification indices investigation) were estimated for the full 35-item instrument – for the purposes of comparison with the military-type organization model. Two similar models were estimated for a 34-item instrument in order to investigate the potential changes in the overall model fit produced by the elimination of the double-loading item.

The first model confirmed the factor structure suggested by the exploratory factor analysis. The baseline model demonstrated a relatively strong fit of the model to the data even in its original state of unreleased correlations. The evidence for it is derived from the examination of the fit indices (Table 3.3). The second model demonstrates a significant improvement of the original model after certain inter-item correlations were released.

The decision for such release was made based on two rules: a) the examination of the modification indices for errors (i.e., potential inter-item correlations) and b) a

possibility of empirical existence of relationships between the items. All the modification indices that exceeded the value of ten were chosen for release. Thirty-seven correlations were freed as a result of this procedure. The comparison of the two models is presented in Table 3.3.

As a result of the correlation release, certain fitting criteria were met. The decrease in degrees of freedom by 37 led to a reduction of the overall model chi-square value by 47%. Although this result is still statistically significant and could be perceived as a not-so-perfect fit of the model, a nearly fifty percent reduction in chi-square value supersedes the indication due to the fact that chi-square tests are susceptible to the sample size and the number of indicators in the model. The given model, containing 35 indicators, by default contributes to a large chi-square value at the goodness of fit test.

Table 3.3 Comparison Of The Full Model Estimated For A Civilian Organization

	Model 1	Model 2
DF	545	508
χ^2	2135.936	1012.896
p-value	0.000	0.000
NFI	0.902	0.954
NNFI	0.918	0.972
CFI/ IFI	0.925	0.976
GFI	0.867	0.937
AIC	2475.613	1262.750
RMR	0.0412	0.0351
RMSEA	0.0613	0.0342
Cr. N	252.833	498.344

The comparison of the normed fit indices between the two models suggests that the fit of the second model improves from 90% to a 95%. The values of the non-normed fit index and comparative and incremental fit indices between the first and the second models suggest the same tendency (an overall improvement by 5%). The goodness of fit

index indicates an even greater superiority of the second model over the first (94% over 86% percent overall fit).

In addition to the indices listed above, that indicate the goodness of fit by growth, the following three indices - AIC, RMR and RMSEA - confirm the applicability and improvement of the models by their decrease. Comparing two models, the model with the lower AIC score is preferred, and that is the case with Model 2 estimation as the AIC value decreased by 51% after the release of the inter-item correlations. The same tendency of nearly 50% reduction in index values could be found in the new estimates for Root Mean Square Error of Approximation (RMSEA) - from .061 to .034. A slight decrease in the index value is seen in Root Mean Square Residual (RMR) index – from .041 to 0.35.

The last indicator of the overall model fit is provided by the value of Critical N. Bollen (1987) states that an appropriate value for this index to suggest a minimal fit must be at least 200. The first model has a fit of 252, which meets the minimal requirement and suggests a present of a viable theoretical model aligned with the data. The second model, however, has a critical N of 498, which is almost double of the initial value that indicates a significant improvement of the model fit.

It is possible to further improve the fit of the model by releasing more inter-item correlation, and achieve a saturation of the model. However, doing so might jeopardize the integrity of the model in two ways. First, as the vast majority of the instrument's items aim at the same topic and the results are obtained from the population of one organization, presence of many statistically significant inter-item correlations is inevitable. Thus, it is possible to set all the inter-item relationships free and explain how

and why they are related. Doing so will inevitably lead to the second reason for jeopardizing the quality of the model: as the task is to find the most parsimonious explanation for the relationships between the indicators and the latent factors, releasing every or the vast majority of the correlations will create a bulky model with many truly important inter-item relationships hidden due to multicollinearity. The results above suggest that the Model 2 has an appropriate fit, therefore, it is accepted as the final model for individual's intention to trust others in an organization.

The accepted model accounted for various relationships between the items within and between individual factors of the questionnaire. These relationships appear to have both, the statistical and the empirical connections. For example, pairs that exhibited the highest inter item correlations and the highest subsequent values of modification indices were a) "*When I first meet a co-worker, I trust them based on their willingness to listen*" and "*When I first meet a co-worker, I trust them if they are patient*" and b) "*My boss supervises by threats*" and "*My boss supervises by intimidation*". Both pairs have logical grounding in reality: a person who is willing to listen to a stranger upon the first meeting must possess a certain degree of patience (even based in mere politeness), while the processes addressed by the second pair – threatening and intimidation – are of similar origin and tend to describe a similar behavioral trend. Other pairs that are characterized by the high correlation associated with high value of the modification indices are a) "*When I first meet a co-worker, I trust them if they cooperate*" and "*When I first meet a co-worker, I trust them if they are considerate*"; b) "*When I first meet a co-worker, I trust them if they are considerate*" and "*When I first meet a co-worker, I trust them if they*

seem sincere" and c) "*People in my organization are hard working*" and "*People in my organization do their jobs*".

The first pair implies that one's willingness to help upon the first meeting associates in individual's minds with such characteristics as thoughtfulness or kindness. These characteristics are perceived as general attributes of benevolent, non-harmful behavior and, as a result could promote individual's willingness to trust in the future. The second pair implies that indications of thoughtfulness are perceived as genuine, which could potentially be interpreted as a signal of one's reliability, and, subsequently, trustworthiness. The third pair targets the perception of one's work ethics and their merit for the workplace. Thus, the perception an individual as of hard working is associated with the perception of that person also being able to perform the job.

Among the correlations between the items of different factors, two pairs show the most prominent relationships and require interpretation. Both have one item in common – "*People in my organization are honest*". The two questions that contribute to the pairs are a) "*People in my organization have gotten promoted as a result of violating rules and/or regulations*" and b) "*My boss lies*". Both items that complete each pair provide a contrast through a perceived opposite behavior, and therefore require a presence of negative correlations to indicate such contrast. However, the correlation matrix shows two strong positive correlations (r=.529 and r=.489). Such correlations are not erroneous: as the two dishonesty items are negatively worded, they were among the items that were reversely coded prior to the analysis in order to remain compliant with the analysis and interpretation of the remaining questions. Correlational analysis on the original, not

recoded dataset shows that the correlations are negative (r= -.529 and r= -.489, subsequently).

To supplement the findings above, unstardidized regression weights for each of the items were examined for their contribution to the model. Each coefficient was compared to the critical value of 1.96 in order to determine whether each item serves a purpose within the instrument. As shown in Table 3.4, all coefficients exceeded the minimal requirement, which suggests that all the items contribute to the multidimensionality of the instrument.

Table 3.4 Unstandardized Regression Weights For The Observed Variables (1.96 c.p.)

Regression Weights	Estimate	Std. Error	C.R.
Q001 When I first meet a co-worker, I trust them if they cooperate.	1.000		
Q002 When I first meet a co-worker, I trust them if they are considerate.	1.028	0.029	34.924
Q003 When I first meet a co-worker, I trust them if they seem sincere.	1.000	0.036	28.075
Q004 When I first meet a co-worker, I trust them based on their willingness to listen.	0.991	0.036	27.722
Q005 When I first meet a co-worker, I trust them if they are patient.	1.017	0.035	28.794
Q006 When I first meet a co-worker, I trust them if they are helpful.	1.113	0.034	33.058
Q007 When I first meet a co-worker, I trust them if they are personable.	0.970	0.036	26.905
Q008 When I first meet a co-worker, I trust them if they are respectful.	1.039	0.035	29.767
Q009 When I first meet a co-worker, I trust them if they are confident.	0.852	0.038	22.574
Q010 People in my organization are willing to do more than what is on their job description.	1.000		
Q011 People in my organization follow through when asked to do something.	1.072	0.044	24.224
Q012 People in my organization are dependable.	1.152	0.044	26.285
Q013 People in my organization are honest.	1.100	0.044	24.955
Q014 People in my organization are hard working.	1.074	0.044	24.227
Q015 People in my organization do their jobs.	1.104	0.044	25.010
Q016 People in my organization take responsibility for mistakes.	1.051	0.044	23.702
Q017 People in my organization get things done correctly.	1.083	0.044	24.524
Q018 My co-workers and I eat meals together outside of work.	1.000		
Q019 My co-workers and I are friends outside of work.	1.265	0.059	21.370

Table 3.4 Unstandardized Regression Weights For The Observed Variables (1.96 c.p.) *(continued)*

Regression Weights	Estimate	Std. Error	C.R.
Q020 My co-workers and I participate in common hobbies and pastimes.	1.039	0.057	18.126
Q021 Outside of work, my co-workers and I have families who are friends.	1.160	0.058	19.916
Q022 My co-workers and I communicate outside of work.	1.369	0.061	22.508
Q023 Policies are rewritten or overlooked for certain people in my organization.	1.000		
Q024 People are promoted for playing politics in my organization.	1.162	0.056	20.636
Q025 People in my organization have gotten promoted as a result of violating rules and/or regulations.	1.137	0.056	20.261
Q026 There are no clear-cut standards for promotions or transfers in my organization.	0.869	0.055	15.895
Q027 People are promoted unfairly in my organization.	1.250	0.057	21.863
Q028 My boss plays favorites.	1.000		
Q029 My boss lies.	1.031	0.044	23.704
Q030 My boss supervises by threats.	0.857	0.034	25.126
Q031 My boss supervises by intimidation.	0.867	0.034	25.572
Q032 My boss does not listen to me.	0.938	0.033	28.617
Q033 When I first meet a co-worker, I do not trust them if they complain.	1.000		
Q034 When I first meet a co-worker, I do not trust them if they gossip.	0.812	0.075	10.813
Q035 When I first meet a co-worker, I do not trust them if they have a bad attitude.	1.499	0.143	10.466

The full model re-estimation

The full model was re-estimated after removing a questionable item that produced a double-loading during the exploratory factor analysis procedure. Eliminating the item allowed for reducing the total number of items in the scale to 34. This resulted in an automatic reduction of the model's degrees of freedom and a subsequent decrease of the chi-square value in the baseline model.

The second model was produced as a result of the investigation of the modification indices for the errors and subsequent investigation of potential empirical relationships between various items in the instrument. Like in the first round of the full

model estimation, the modification indices that exceeded the value of 10 were taken into account and the relationships between the affiliated items were established.

The results obtained during the analysis suggested a strong preference of the Model 2 over the baseline or null models. The comparison of the estimates between the baseline and the second models are presented in Table 3.5.

Table 3.5 Comparison Of The Full Model Estimated For A Civilian Organization

	Model 1	Model 2
DF	512	491
χ^2	1956.455	1003.781
p-value	0.000	0.000
NFI	0.907	0.952
NNFI	0.923	0.971
CFI/ IFI	0.929	0.975
GFI	0.874	0.934
AIC	2282.693	1243.866
RMR	0.0430	0.0354
RMSEA	0.0603	0.0359
Cr. N	260.373	487.204

By-factor confirmatory analysis

To examine the findings more closely, each of the six sub-hypotheses[4] were investigated. Each of the six emerging factors was estimated through the use of structural equation modeling technique. Each factor was estimated twice: the first time each model was presented in its original form, without accounting for any existing inter-item

[4] **H1a:** Organizational trust in civilian organization is influenced by personal propensity to trust; **H1b:** Organizational trust in civilian organization is influenced by personal propensity to distrust; **H1c:** Organizational trust in civilian organization is influenced by employees' interactions outside the organization; **H1d:** Organizational trust in civilian organization is influenced by the elements of organizational structure, especially such as organizational policies and promotions; **H1e:** Organizational trust in civilian organization is influenced by individual perceptions of co-workers' characters and behaviors (horizontal level); **H1f:** Organizational trust in civilian organization is influenced by individual perceptions of boss's character and behavior.

correlations; for the second round, each original output was examined for the modification indices. Modification indices that suggested a presence of empirical relationships and a significant change in chi-square if the inter-item correlations are established were released to produce the final model estimate for each factor.

Propensity to trust. This factor represents individual's perceptions of one's trustworthiness based upon the initial meeting. The factor is constructed from nine items that are focused on such perceived characteristics and behaviors as confidence, patience, sincerity, regard and respect for others, approachability and helpfulness. The estimates and comparison of the two models are presented in the Table 3.6.

Table 3.6 Propensity To Trust Model Fit

Model 1	Model 2	
DF	27	14
χ^2	534.474	18.277
p-value	0	0.194
NFI	0.923	0.997
NNFI	0.902	0.998
CFI	0.926	0.999
GFI	0.872	0.995
AIC	602.989	80.093
RMR	0.0384	0.007
RMSEA	0.152	0.0184
Cr. N	76.654	1373.95

The results indicate that releasing the large modification indices allowed for a significant improvement of the suggested model's fit. Low value of the chi-square and the lack of statistical significance of the chi-square value indicate that the suggested model fits the data well. This is also supported by the high (above 200) value of the critical N and the overall increase in the values of the fit indices. The values of the Normed, Non-Normed, Comparative and Incremental Fit indices suggest that the second

model (the one that assumes the presence of the inter-item correlations) demonstrates a 99% improvement over the model of complete independence. The Goodness of Fit Index also suggests a 99% fit of the model to the data.

The most prominent relationships between the items, established in the second model, are summarized in Figure 3.1. During the analysis one item was found that serves as hubs for correlations within the models: *Q001 When I first meet a co-worker, I trust them if they cooperate.*

Figure 3.1 Correlated Pairs Release During The Analysis

Item	Pair
Q001 When I first meet a co-worker, I trust them if they cooperate.	Q002 When I first meet a co-worker, I trust them if they are considerate.
Q001 When I first meet a co-worker, I trust them if they cooperate.	Q003 When I first meet a co-worker, I trust them if they seem sincere.
Q003 When I first meet a co-worker, I trust them if they seem sincere.	Q002 When I first meet a co-worker, I trust them if they are considerate.
Q004 When I first meet a co-worker, I trust them based on their willingness to listen.	Q001 When I first meet a co-worker, I trust them if they cooperate.
Q005 When I first meet a co-worker, I trust them if they are patient.	Q001 When I first meet a co-worker, I trust them if they cooperate.
Q005 When I first meet a co-worker, I trust them if they are patient.	Q003 When I first meet a co-worker, I trust them if they seem sincere.
Q005 When I first meet a co-worker, I trust them if they are patient.	Q004 When I first meet a co-worker, I trust them based on their willingness to listen.
Q006 When I first meet a co-worker, I trust them if they are helpful.	Q001 When I first meet a co-worker, I trust them if they cooperate.
Q007 When I first meet a co-worker, I trust them if they are personable.	Q002 When I first meet a co-worker, I trust them if they are considerate.
Q008 When I first meet a co-worker, I trust them if they are respectful.	Q007 When I first meet a co-worker, I trust them if they are personable.
Q008 When I first meet a co-worker, I trust them if they are respectful.	Q009 When I first meet a co-worker, I trust them if they are confident.
Q009 When I first meet a co-worker, I trust them if they are confident.	Q007 When I first meet a co-worker, I trust them if they are personable.
Q009 When I first meet a co-worker, I trust them if they are confident.	Q002 When I first meet a co-worker, I trust them if they are considerate.

In order to finalize the validation of the sub-scale, reliability estimates were calculated for this factor using Cronbach's alpha. The results indicate that the reliability

coefficient for the scale is α=.949, which exceeds the minimal requirement of .7 (Zeller and Carmines, 1979).

To supplement the findings above, unstandardized regression coefficients for the items are presented in the table 3.7. All the items in the model are viable, as the critical ratio comparison exceeds the minimal requirement of 1.96.

Table 3.7. Unstandardized Regression Coefficients For The Factor

	Model 1			Model 2		
Regression Weights	**Estimate**	**Std. Error**	**C.R.**	**Estimate**	**Std. Error**	**C.R.**
Q001 When I first meet a co-worker, I trust them if they cooperate.	1.000			1.000		
Q002 When I first meet a co-worker, I trust them if they are considerate.	1.050	-0.033	31.739	1.062	-0.032	32.741
Q003 When I first meet a co-worker, I trust them if they seem sincere.	1.005	-0.034	29.613	1.028	-0.036	28.726
Q004 When I first meet a co-worker, I trust them based on their willingness to listen.	1.008	-0.034	29.745	1.033	-0.041	25.193
Q005 When I first meet a co-worker, I trust them if they are patient.	1.026	-0.034	30.569	1.069	-0.041	25.954
Q006 When I first meet a co-worker, I trust them if they are helpful.	1.091	-0.032	33.810	1.136	-0.035	32.154
Q007 When I first meet a co-worker, I trust them if they are personable.	0.943	-0.035	26.915	0.981	-0.041	24.099
Q008 When I first meet a co-worker, I trust them if they are respectful.	1.015	-0.034	30.057	1.05	-0.04	26.321
Q009 When I first meet a co-worker, I trust them if they are confident.	0.824	-0.037	22.353	0.853	-0.042	20.439

Co-workers' character and behavior. This factor represents individual's perceptions of other organizational members' character and behavior. The factor is constructed from eight items that are focused on such perceived characteristics and behaviors as reliability, honesty and work ethics and skill. The estimates and comparison of the two models are presented in the Table3.8.

Table 3.8 Co-Workers' Character And Behavior Model Fit

	Model 1	Model 2
DF	20	12
χ^2	177.761	36.537
p-value	0	0
NFI	0.966	0.993
CFI/IFI	0.69	0.995
GFI	0.945	0.99
AIC	233.336	83.071
RMR	0.103	0.0125
RMSEA	0.0253	0.0473
Cr. N	182.955	618.835

The results suggest that the second model provides a better fit for the data. The number of the degrees of freedom was reduced by eight, so the chi-square results decreased five times of its original value. Despite the fact that the p-value still provides statistically significant result (thus – not a perfect fit of model to the data), it is important to consider that this factor is the second largest in the model 98 items), which, in conjunction with the large sample size, makes it automatically susceptible to the high value of chi-square test for the fit.

Other fit indices provide sufficient evidence to suggest that the second model provides an appropriate fit to the data. Normed Fit index value demonstrates the improvement of the model from 96 to 99% in comparison to the baseline estimate. Similar tendency is shown by Non-Normed Fit Index (a leap from 95 to 98% improvement), as well as by the values of comparative fit, incremental Fit and Goodness of Fit indices (69 to 99.5 and 94 to 99% improvement respectively).

As a result of the releasing inter-item coefficients in the second model, the AIC score decreased by 35%, which is desirable for a good-fitting model. RMR index also demonstrates a drastic improvement of the model through the correlation release by a drop from 10 to 1%. Same levels of the fit improvement is supported by the increase in

the value of the Critical N that has not met the minimum requirement of 200 during the baseline estimation and leaped to 618 upon the examination of the modification indices. Eight connections between the items were released and two hubs were established: *Q012 People in my organization are dependable* and *Q014 People in my organization are hard working.*

Sub-scale reliability levels were estimated in order to finalize the validation of this part of the instrument. Chronbach's alpha calculations produced the result of α=.949 that meet the minimum requirement of .7. This suggests that none of the items require a removal as removing any one of the items will reduce the overall sub-scale reliability by approximately 2%.

Figure 3.2 Correlated Pairs Release During The Analysis

Item	Pair
Q011 People in my organization follow through when asked to do something.	Q012 People in my organization are dependable.
Q012 People in my organization are dependable.	
Q013 People in my organization are honest.	Q012 People in my organization are dependable.
Q014 People in my organization are hard working.	Q011 People in my organization follow through when asked to do something.
Q014 People in my organization are hard working.	Q012 People in my organization are dependable
Q014 People in my organization are hard working.	Q013 People in my organization are honest.
Q015 People in my organization do their jobs.	Q012 People in my organization are dependable.
Q015 People in my organization do their jobs.	Q013 People in my organization are honest.
Q015 People in my organization do their jobs.	Q014 People in my organization are hard working.

A comparison of the unstandardized regression coefficients (Table 3.9) demonstrates that the items selected for this sub-scale contribute significantly to the model.

Table 3.9. Unstandardized Regression Coefficients For The Factor

	Model 1			Model 2		
Regression Weights	**Estimate**	**Std. Error**	**C.R.**	**Estimate**	**Std. Error**	**C.R.**
Q010 People in my organization are willing to do more than what is on their job description.	1.000			1.000		
Q011 People in my organization follow through when asked to do something.	1.063	-0.044	23.996	1.066	-0.045	23.816
Q012 People in my organization are dependable.	1.144	-0.044	26.067	1.143	-0.046	25.053
Q013 People in my organization are honest.	1.076	-0.044	24.313	1.081	-0.046	23.732
Q014 People in my organization are hard working.	1.115	-0.044	25.329	1.129	-0.046	24.560
Q015 People in my organization do their jobs.	1.143	-0.044	26.047	1.138	-0.045	25.197
Q016 People in my organization take responsibility for mistakes.	1.039	-0.044	23.391	1.037	-0.044	23.381
Q017 People in my organization get things done correctly.	1.094	-0.044	24.770	1.091	-0.044	24.755

Extra-organizational factors.

This factor represents communicative and behavioral practices established between the individual and his/her colleagues. The factor is constructed from five items that target actual behaviors that constitute different levels of individual's involvement with other organizational members (from broad tendency to communicate with co-workers past work time to being friends with co-workers). The estimates and comparison of the two models are presented in the Table 3.10

The results of the analysis provide the evidence of the better fit of the model to the data in the second model. The reduction in degrees of freedom with the subsequent drastic reduction of the chi-square value from 27.65 to 4.69 resulted in an increase of the p-value from 0.000 to 0.095. Such not statistically significant result indicates a strong fit of the model to the data that is a definite criteria for accepting the Model 2 as the

finalized version of the extra-organizational activities factor.

Table 3.10 Interactions Outside of the Organization Model Fit

	Model 1	Model 2
DF	5	2
χ^2	27.653	4.69
p-value	0	0.095
NFI	0.988	0.998
NNFI	0.981	0.994
CFI	0.99	0.999
GFI	0.987	0.998
AIC	48.211	30.587
RMR	0.0181	0.00856
RMSEA	0.0734	0.0388
Cr. N	470.801	1691.87

Other fit indices provide sufficient evidence to suggest that the excellent fit that the second model provides to the data. The values of Normed, Non-Normed, Comparative, Incremental and Goodness of Fit indices show that the second model improves the fit to the data up to 99% from an already strong value of 98% provided by the baseline model.

The other scores that describe the fit of the model by having small values (AIC, RMR and RMSEA) demonstrate a significant decrease in values in the second model. The value of the Root Mean Square Residual experienced the most change, as the value in the baseline model is twice the value produced by the Model 2.

The values of Critical N demonstrate the strong model fit in both cases, as they exceed the minimum requirement of 200. However, the Critical N of the second model is three times the size of the value in the first model, which indicates the preferential model between the two.

Reliability estimates for this factor showed the value of Chronbach's alpha α=.881. The result meets the minimum requirement of .7 and is appropriate for further application of the instrument. The lower levels of alpha could be explained by the lower number of items in the factor, as Chronbach's alpha is influenced by the number of items in the model (Zeller and Carmines, 1979). The unstandardized regression coefficients for the items within the model are reported to demonstrate their viability (Table 3.11).

Table 3.11 Unstandardized Regression Coefficients For The Factor

	Model 1			Model 2		
Regression Weights	**Estimate**	**Std. Error**	**C.R.**	**Estimate**	**Std. Error**	**C.R.**
Q018 My co-workers and I eat meals together outside of work.	1.000			1.000		
Q019 My co-workers and I are friends outside of work.	1.263	-0.06	21.224	1.303	-0.061	21.499
Q020 My co-workers and I participate in common hobbies and pastimes.	1.042	-0.058	18.084	1.072	-0.062	17.353
Q021 Outside of work, my co-workers and I have families who are friends.	1.164	-0.059	19.873	1.217	-0.074	16.39
Q022 My co-workers and I communicate outside of work.	1.378	-0.061	22.445	1.408	-0.073	19.163

To produce the second model, three pairs of correlations were released: 1) *Q018 My co-workers and I eat meals together outside of work* and *Q019 My co-workers and I are friends outside of work;* 2) *Q019 My co-workers and I are friends outside of work* and Q021 *Outside of work, my co-workers and I have families who are friends*; and 3) *Q021 Outside of work, my co-workers and I have families who are friends* and *Q022 My co-workers and I communicate outside of work.*

Organizational structure.

This factor represents individual's perceptions of the organizational structure, focused mainly on the issues the stability of organizational policies and clarity of

standards for promotions. The factor includes five items that were reversely coded for the internal consistency of the overall analysis using the full instrument. The estimates and comparison of the two models are presented in the Table 3.12

Table 3.12 Organizational Structure Factor Model Fit

	Model 1	Model 2
DF	5	2
χ^2	65.263	2.682
p-value	0	0.262
NFI	0.966	0.999
NNFI	0.937	0.998
CFI/IFI	0.969	1
GFI	0.971	0.999
AIC	85.009	28.704
RMR	0.0308	0.00717
RMSEA	0.118	0.0202
Cr. N	200.06	2958.07

Analysis of this factor also demonstrates the improvement of the fit by releasing the inter-item correlations based on the values of the modification indices and presence of empirical relationships between the freed items. Despite the fact that the value of Critical N meets the minimum requirement of 200 in the baseline model estimate, other indices show relative weakness of the initial model. The five fit indices used for model evaluation range from 93 to 97% of model applicability, while the indices in the second model indicate a 99% fit to the data with the exception of Comparative and incremental fit indices that suggest a 100% match.

The excellence of the model fit of the Model 2 is supported by the decrease in degrees of freedom that resulted in a drop in chi-square value from 65.2 to 2.6. The new value of chi-square is accompanied by a p-value coefficient that far exceeds .05. This results means that the suggested model provides a perfect fit to the data collected.

The indices that must be characterized by the smallest possible values, such as AIC, RMR and RMSEA also demonstrate acceptable results. The most drastic change could be found in the value of Root Mean Square Error of Approximation that fluctuated from .118, which indicates a poor fit, to .02 – an acceptable fit, as it falls below the maximum of .05. The improvement of the model is also seen in the value of the Critical N that increased from 200 to 2958.

Three most prominent relationships between the items were established to increase the model fit: 1) *Q023 Policies are rewritten or overlooked for certain people in my organization* and *Q024 People are promoted for playing politics in my organization*; 2) *Q023 Policies are rewritten or overlooked for certain people in my organization* and *Q027 People are promoted unfairly in my organization*; and 3) *Q027 People are promoted unfairly in my organization* and *Q026 There are no clear-cut standards for promotions or transfers in my organization*. The reliability estimates calculated for this sub-scale amounted to α=.852. This result is deemed as sufficient as it exceeds the minimum requirement of .7.

The unstandardized regression coefficients are presented in the Table 3.13 to supplement the findings of the model fit.

Table 3.13 Unstandardized Regression Coefficients For The Factor

	Model 1			Model 2		
Regression Weights	**Estimate**	**Std. Error**	**C.R.**	**Estimate**	**Std. Error**	**C.R.**
Q023 Policies are rewritten or overlooked for certain people in my organization.	1.000			1.000		
Q024 People are promoted for playing politics in my organization.	1.19	-0.058	20.467	1.128	-0.057	19.819
Q025 People in my organization have gotten promoted as a result of violating rules and/or regulations.	1.127	-0.058	19.597	1.106	-0.064	17.153

Table 3.13 Unstandardized Regression Coefficients For The Factor *(continued)*

	Model 1			Model 2		
Regression Weights	**Estimate**	**Std. Error**	**C.R.**	**Estimate**	**Std. Error**	**C.R.**
Q026 There are no clear-cut standards for promotions or transfers in my organization.	0.865	-0.056	15.505	0.783	-0.06	12.962
Q027 People are promoted unfairly in my organization.	1.258	-0.059	21.256	1.248	-0.068	18.257

Boss's character and behavior. This factor represents individual's perceptions of the character and behaviors of their immediate supervisors. The factor includes five items that aim at such negative aspects of supervisory practices as threatening, intimidation, favoritism, deception and lack of communication between the boss and his/her subordinate. The estimates and comparison of the two models are presented in the Table 3.14.

Table 3.14 Boss's Character And Behavior Factor Model Fit

	Model 1	**Model 2**
DF	5	3
χ^2	270.071	6.831
p-value	0	0.0775
NFI	0.908	0.998
CFI/IFI	0.91	0.999
GFI	0.868	0.997
AIC	347.307	30.808
RMR	0.0541	0.00913
RMSEA	0.274	0.0384
Cr. N	49.103	1431.22

Due to the fact that the this factor contained the item that loaded onto two factors during the exploratory analysis phase, this model had to undergo four different estimations. Two models – the baseline and the improved version were estimated for the full set of items that included the double-loading question. Two models were estimated for a reduced set of four items that emerged after the exclusion of the double-loaded item.

The estimation of the initial model fit for the full sub-scale demonstrated a poor fit of the model to the data. The model fit (NFI, NNFI, IFI, CFI and GFI) indices produced an unacceptable range of coefficients from 81 to 91% fit during the baseline analysis. The release of the inter-item correlations during the second round of the analysis allowed increasing the comparative model fit to the maximum of 99.9%.

The viability of the second model is also supported by the drop in chi-square value and the subsequent increase of the p-value accompanying it. The lack of statistical significance demonstrated by the high p-value (that exceeds the upper limit of $p<.05$) indicates the absence of drastic difference between the observed and predicted values of data, hence – an appropriate model fit.

A significant decrease in the AIC score in the second model (from 347 to 30) indicates the model 2 as the preferred choice. The same notion is supported by the values of RMR and RMSEA that decrease drastically after the potential relationships between the items in the scale were established. The high value of the Critical N also supports the choice of model 2.

This sub-scale produced a high value of the reliability coefficient - $\alpha=.902$. This coefficient, however, will decrease as the re-estimation of the model without the problematic item occurs.

The summary of the regression coefficients (Table 3.15) demonstrated the strength of the items, retained in the model. In order to improve the model fir, two pairs of items were correlated: *1) Q030 My boss supervises by threats* and *Q031 My boss supervises by intimidation*; and 2) *Q032 My boss does not listen to me* and *Q028 My boss plays favorites*.

Table 3.15 Unstandardized regression coefficients for the factor

	Model 1			Model 2		
Regression Weights	**Estimate**	**Std. Error**	**C.R.**	**Estimate**	**Std. Error**	**C.R.**
Q028 My boss plays favorites.	1.000			1.000		
Q029 My boss lies.	1.147	-0.05	22.951	1.172	-0.049	23.697
Q030 My boss supervises by threats.	1.203	-0.05	24.01	1.015	-0.048	21.242
Q031 My boss supervises by intimidation.	1.221	-0.05	24.33	1.037	-0.048	21.725
Q032 My boss does not listen to me.	1.105	-0.05	22.126	1.09	-0.042	25.812

Re-estimation of the bosses' character and behavior factor.

Re-estimation of the factor without the double-loading item allowed for a relative improvement in the baseline model. The range of fit indices got elevated by three percent (from 81-91 range to 84-94 range), which is, although still a poor fit, a slight improvement of the earlier model. The same applies to the remaining fit measures in the baseline model – a slight improvement overall supported the beneficial effect of dropping the questionable item.

The major improvement of the model fit, however, was produced after the investigation of the modification indices for errors, and subsequent release of the inter-item correlations. Model 2 results indicate model enhancements, demonstrated in the values of the five fit indices (NFI, NNFI, CFI, IFI and GFI) that suggest a 100% improvement of the second model in comparison to the model of complete independence.

The results of the chi-square test also suggest that there is no significant difference between predicted and observed models, which points out to the perfect fit of the model to the data. The residual values support the same notion with the low values of .00019 of RMR and the value of 0 in RMSEA coefficient. The high value of the Critical N provides additional support for the model choice.

Table 3.16 Boss's Character And Behavior Factor Model Fit *(re-estimated)*

	Model 1	Model 2
DF	2	1
χ^2	120.317	0.621
p-value	0	0.431
NFI	0.948	1
NNFI	0.845	1.001
CFI	0.948	1
GFI	0.933	1
AIC	139.591	18.621
RMR	0.0463	0.00193
RMSEA	0.266	0
Cr. N	66.916	9195.13

As predicted above, the reliability coefficient for the subscale experienced a slight reduction to α=.897. The decrease that occurred due to the susceptibility of Chronbach's alpha to the number of indicators in the model, however, does not have detrimental consequences for the overall quality of the sub-scale. The drop in the reliability coefficient due to the removal of one item is insignificantly low (.902-.897=.005), which only supports the necessity of dropping the questionable item. Such minimal change in reliability coefficient indicates that the eliminated item did not provide a meaningful contribution to the scale under the new application.

After re-estimating the model, one pair of items was correlated to improve the model fit: *Q032 My boss does not listen to me* and *Q029 My boss lies*. The decrease in the number of items did not affect the contribution of the other items to the model; thus, the regression coefficient summary demonstrates their strong presence in the model.

Table 3.17 Unstandardized Regression Coefficients For The Factor

	Model 1			Model 2		
Regression Weights	**Estimate**	**Std. Error**	**C.R.**	**Estimate**	**Std. Error**	**C.R.**
Q029 My boss lies.	1.000			1.000		
Q030 My boss supervises by threats.	1.155	-0.041	28.322	1.22	-0.046	26.348

Table 3.17 Unstandardized Regression Coefficients For The Factor *(continued)*

		Model 1			Model 2		
	Regression Weights	**Estimate**	**Std. Error**	**C.R.**	**Estimate**	**Std. Error**	**C.R.**
Q031	My boss supervises by intimidation.	1.172	-0.041	28.694	1.245	-0.047	26.536
Q032	My boss does not listen to me.	0.955	-0.042	22.663	0.948	-0.036	26.233

Propensity to distrust. This factor represents individual's perceptions of one's trustworthiness based upon the initial meeting, yet is focused on negative behavior exhibited by other organizational members during the first encounter. The factor includes three items aiming at such particular behaviors as complaining and gossiping, as well as such broader characteristic as having a bad attitude. The estimates and comparisons of the two models are presented in the Table 3.18.

Table 3.18 Propensity To Distrust Factor Model Fit

	Model 1	**Model 2**
DF	2	1
χ^2	22.637	5.55
p-value	0	0.0185
NFI	0.945	0.986
NNFI	0.924	0.967
CFI	0.949	0.989
GFI	0.983	0.996
AIC	30.542	15.532
RMR	0.067	0.0364
RMSEA	0.109	0.0726
Cr. N	351.34	1030.33

This factor contains the least number of indicators among all the sub-scales of the instrument. In order to estimate the model, each of the three indicator paths was fixed to the value of one. As a result of the analyses, two models were produced. The baseline model that did not imply any correlations between the items demonstrated a weaker fit,

characterized by the low values of the fit indices and unacceptably high values of the residual coefficients.

After releasing the correlations between the items of the scale, a new model emerged with a stronger fit. The p-value associated with the result of the chi-square test demonstrates the absence of discrepancy between the predicted and actual models, which is supported by the improved values of the fit indices that range from 96 to 99% comparatively with the null model. The same finding is supported by the decrease in AIC score, RMR and RMSEA values and increase of the Critical N value.

Finalizing validation of this sub-scale, Chronbach's alpha coefficient was calculated. The procedure produced a result of α=.668, which falls slightly short of the minimum requirement of α=.7. This result, however, is deemed as acceptable for the further use of the instrument due to the general sensitivity of Cronbach's alpha coefficient to the number of items in the scale. Since the propensity to distrust factor consists of only three items, it is appropriate that its reliability coefficient is lower that such of other subscales in the model.

Investigating organizational differences

Independent sample t-test

In order to determine the relationships between the six factors established through the confirmatory analysis and respond to hypotheses two[5] and three[6] and also research

[5] **H2:** The influence of structural elements on expressed organizational trust will differ between the civilian and military-type organizations.

[6] **H3:** The influence of boss's character and behavior on the organizational trust will differ between the civilian and military-type organizations.

question two[7], a variety of tests was performed. To obtain the general overview of existing differences between the two organizational types, an independent sample t-test was conducted. In order to make the cross-organizational comparison, the average composite scores were calculated for each of the six factors and compared with the participating organization as a grouping variable.

The goal of the test was to see whether the mean difference between the two samples is sufficient to produce a discussion of potential organizational differences. The results of the test suggest that five out of six factors – predisposition to trust, co-worker's character and behavior, extra-organizational factors, structural elements and boss's character and behavior – have a statistically significant difference in means. The average scores for predisposition to distrust reported, however, to be similar enough not to yield statistically significant results (p=.124).

Reported in Table 3.19, the largest difference between the means is detected between the perception of boss's character and behavior (9.12), followed by predisposition to trust (4.53) and structural elements (4.04). These findings are consistent with the hypotheses two and three and allow preliminary consideration for accepting the hypotheses. However, as five out of six factors demonstrated presence of statistically significant difference in means, further investigation is necessary in order to determine whether the discovered difference is due to the effects of the organizational type or due to other contributing factors, such as, for example, perceptional solidarity existing in organizations (as a result of organizational culture).

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[7] **RQ2:** Considering the universal importance of personal characteristics and individual professionalism among co-workers, does their influence on the formation of organizational trust differ in a civilian and military-type organizations?

Table 3.19 Independent Sample T-Test Results

	Data Source	N	Mean	Std. Deviation	Std. Error Mean	Mean Diff.	Std. Error Diff.	Sig. (2-tailed)
ptt	IDPS	417	40.3885	12.62182	.61809	-4.5349	.69122	.000
	ISU	862	44.9234	9.08477	.30943			
ppl	IDPS	417	39.7410	9.93247	.48640	-1.4979	.55751	.007
	ISU	862	41.2390	9.04953	.30823			
out	IDPS	417	21.7890	7.44199	.36444	2.81913	.42469	.000
	ISU	862	18.9698	6.95858	.23701			
policies	IDPS	417	24.6954	7.27686	.35635	4.03767	.42544	.000
	ISU	862	20.6578	7.06121	.24051			
boss	IDPS	417	16.9496	9.82441	.48110	-9.1246	.54627	.000
	ISU	862	26.0742	7.59648	.25874			
ptd	IDPS	417	13.6067	3.92462	.19219	-.33412	.21707	.124
	ISU	862	13.9408	2.96240	.10090			

To supplement these findings and avoid the confinement due to potential differences in perceptions held by sworn police and civilian employees of both organizations, another independent sample t-test was conducted. For this purpose a new variable was created that separated the sample by responses of sworn and civilian employees.

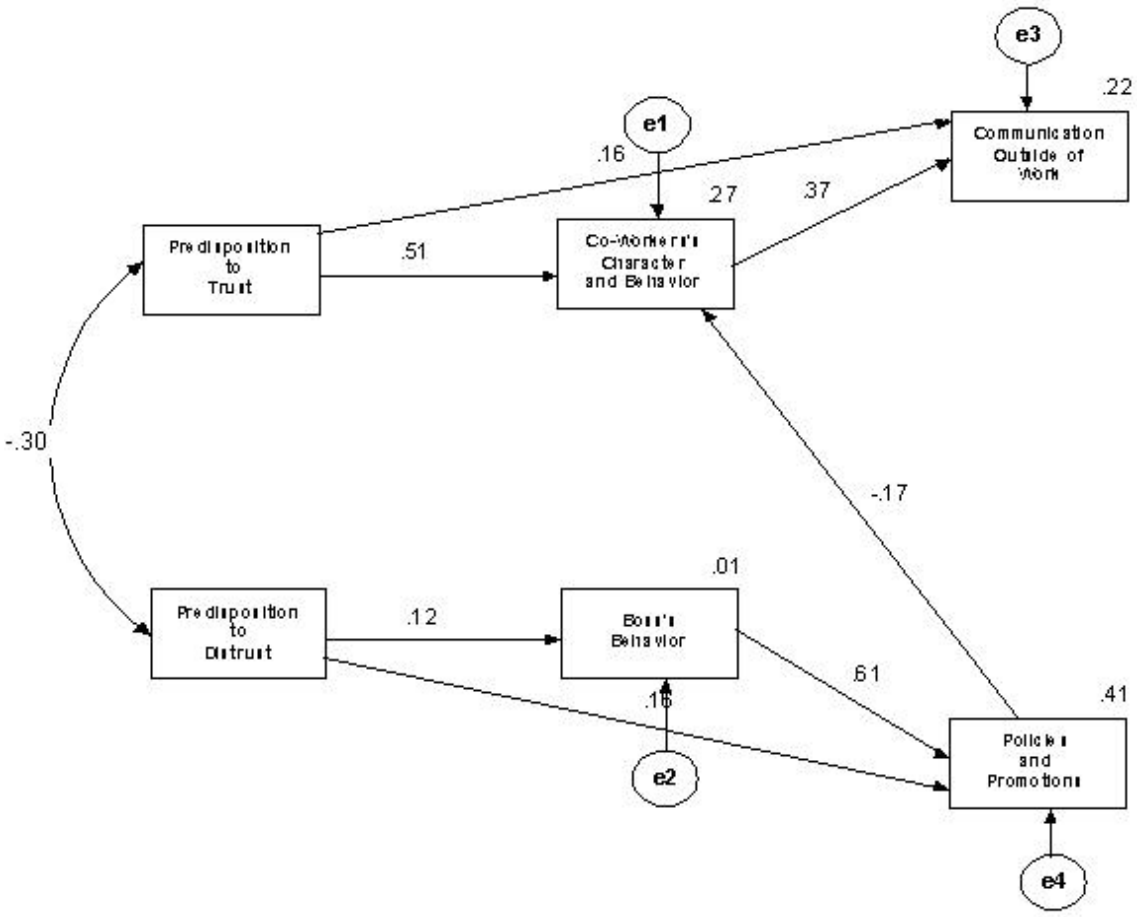
The results of this test provided an additional support to the second research question, as each of the substantive factors produced a statistically significant difference in means except for the co-workers' character and behavior dimension. This dimension appeared to have no statistically significant difference in means (t=-1.152, p=.249).

Path analysis for the military-type organization

In order to closer examine the relationships between the factors and the effects of organizational types, path models for each organization were created. Each path model employed the factor scores created for the independent t-test, so both models could

operate with observed variables. Examining the inter-factor relationships for a military-type organization model, seven statistically significant paths were discovered. The model employed predisposition to trust and predisposition to distrust as exogenous variables that contributed to the remaining four factors. The endogenous variables were correlated (Figure 3.3).

Figure 3.3 Path model for the military-type organization



The model produced as a result of the analysis demonstrated strong viable characteristics. The reduction of degrees of freedom by one third resulted in a drastic

reduction in chi-square value that, in turn, is accompanied by a p-value that exceeds the possible maximum of p<.05. These findings indicate a good fit of the model to the data. The Normed, Comparative and Incremental Fit indices suggest a 98% improvement that the final model has over the model of complete independence. The strong fit is also supported by the decrease in AIC score and a large value of the Critical N.

Table 3.20 Model Summary For The Military-Type Organization Path Model

	Null Model	Accepted Model
DF	21	7
χ^2	522.921	13.900
p-value	.000	.053
NFI	.000	.973
CFI/IFI	.000	.987
AIC	534.921	53.900
RMSEA	.167	.034
Cr. N	65	1145

Unstandardized regression coefficients for the paths were examined to ensure that the paths drawn in the model are statistically significant. Six out of seven paths exhibit statistical significance on the level of p<.001, one path is significant at the p<.05 level.

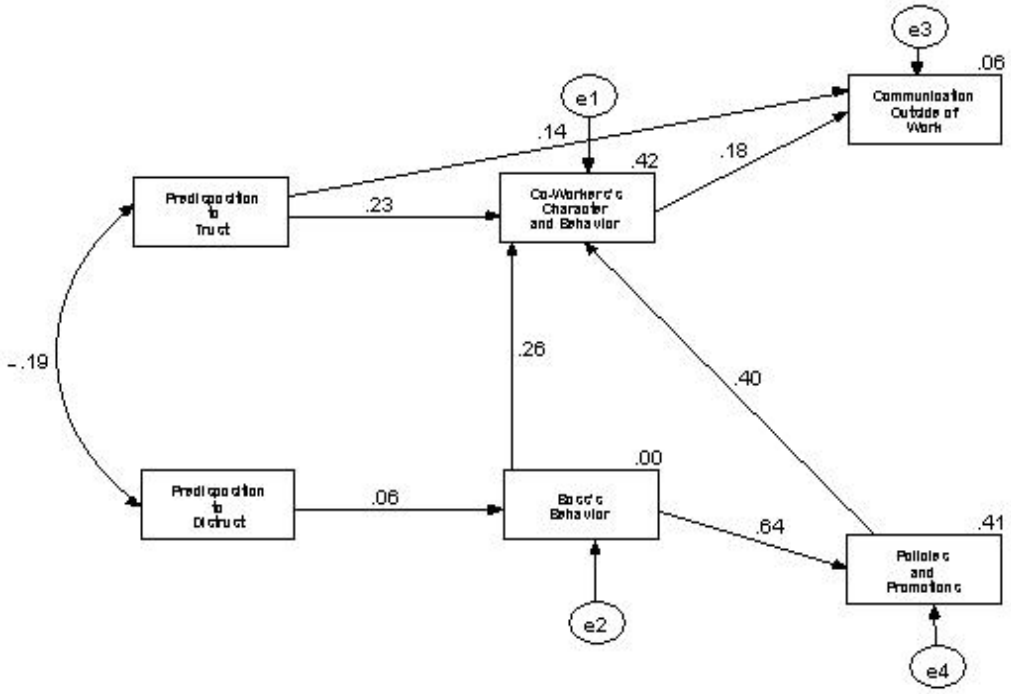
Table 3.21 Unstandardized Regressions Weights For A Military-Type Organization Path Model

	Estimate	S.E.	C.R.	P
dpsboss ←- dpsptd	.292	.122	2.394	.017
dpspolic ←- dpsboss	.449	.028	16.057	.000
dpspolic ←- dpsptd	.293	.070	4.181	.000
dpsppl ←- dpsptt	.397	.033	12.120	.000
dpsppl ←- dpspolic	-.226	.057	-3.972	.000
dpsout ←- dpsppl	.277	.037	7.386	.000
dpsout ←- dpsptt	.095	.029	3.242	.001

Path analysis for the civilian-type organization model

Due to the fact that the data from a civilian organization was collected after the preliminary work on the military-type organization model was completed, the path model followed the produced template. The repetition of the model layout was necessary in order to discover potential differences in the relationships between the factors and test for the overall applicability of the model for a civilian-type setting. Upon the completion of the test it was found that the model produced has a strong resemblance to the path model created for the military-type setting. However, the new model also contains several discrepancies that make it differ from the original layout (Figure 3.4).

Figure 3.4 Path Model For The Civilian Organization



Similarly to the original military-type layout, the new model also contains seven inter-factor paths. However, the path from predisposition to distrust to policies and

promotions is absent, while a new path with a significant effect is drawn from boss's character and behavior to co-worker's character and behavior factor.

The new model is also characterized by a strong fit to the data. The results, described in Table 3.22 suggest that, in comparison to the model of complete independence, the final model is improved by 98%. Although the p-value, associated with the obtained chi-square, suggests the presence of the statistically significant difference between the data and the model, the increase in the p-value demonstrates the tendency of the overall model improvement that leads to the minimization of such difference. Other indicators, such as the decrease in AIC score and increase in the Critical n value also points at the appropriateness of the model.

Table 3.22 Model Summary For The Military-Type Organization Path Model

	Null Model	Accepted Model
DF	15	7
χ^2	1038.514	16.841
p-value	.000	.018
NFI	.000	.984
CFI/IFI	.000	.990
AIC	1062.514	56.841
RMSEA	.282	.040
Cr. N	26	945

Examination of the unstandardized regression coefficients determined that the path between predisposition to trust and boss's character and behavior factors, significant in a military-type organization model, does not have statistically significant relationships in the civilian setting (Table 3.23). That finding resulted in predisposition to distrust factor becoming disconnected from the remaining factors in the model and pertaining to the other factors solely through its correlation with the other exogenous variable.

Table 3.23 Unstandardized Regressions Weights For A Civilian Organization Path Model

	Estimate	S.E.	C.R.	P
isuboss ←- isuptd	.149	.087	1.703	.089
isupolic ←- isuboss	.592	.024	24.267	.000
isuppl ←- isuptt	.224	.026	8.726	.000
isuppl ←- isuboss	.304	.040	7.625	.000
isuppl ←- isupolic	.512	.043	11.947	.000
isuout ←- isuppl	.137	.026	5.181	.000
isuout ←- isuptt	.104	.026	3.996	.000

As its relationship to the rest of the model became questionable, a decision was made to eliminate the entire component from the model and examine the effects this procedure would have on the overall model fit. The newly emerged model is presented in Figure 3.6. The new model contains six paths between the factors, each significant at the $p<.001$ level (Table 3.24).

Table 3.24 New Unstandardized Regressions Weights For A Civilian Organization Path Model

	Estimate	S.E.	C.R.	P
isupolic <--- isuboss	.592	.024	24.267	.000
isuppl <--- isuptt	.224	.026	8.727	.000
isuppl <--- isuboss	.304	.040	7.625	.000
isuppl <--- isupolic	.512	.043	11.947	.000
isuout <--- isuppl	.137	.026	5.181	.000
isuout <--- isuptt	.104	.026	4.001	.000

Eliminating the entire predisposition to distrust component from the model resulted in positive changes in the way model fits the data (Table 3.25). The loss of the factor allowed for a drastic improvement of the model, which is evident from the decrease of the chi-square value and the subsequent increase of the p-value associated with it. The new p-value of .122, which exceeds the maximum allowed value of $p<.05$,

indicates the absence of significant discrepancies between the model and the data, or – a good fit. This findings are also supported by the low value of RMSEA and AIC and by a doubling of the value of the critical N.

Figure 3.5 New Path Model For A Civilian Organization

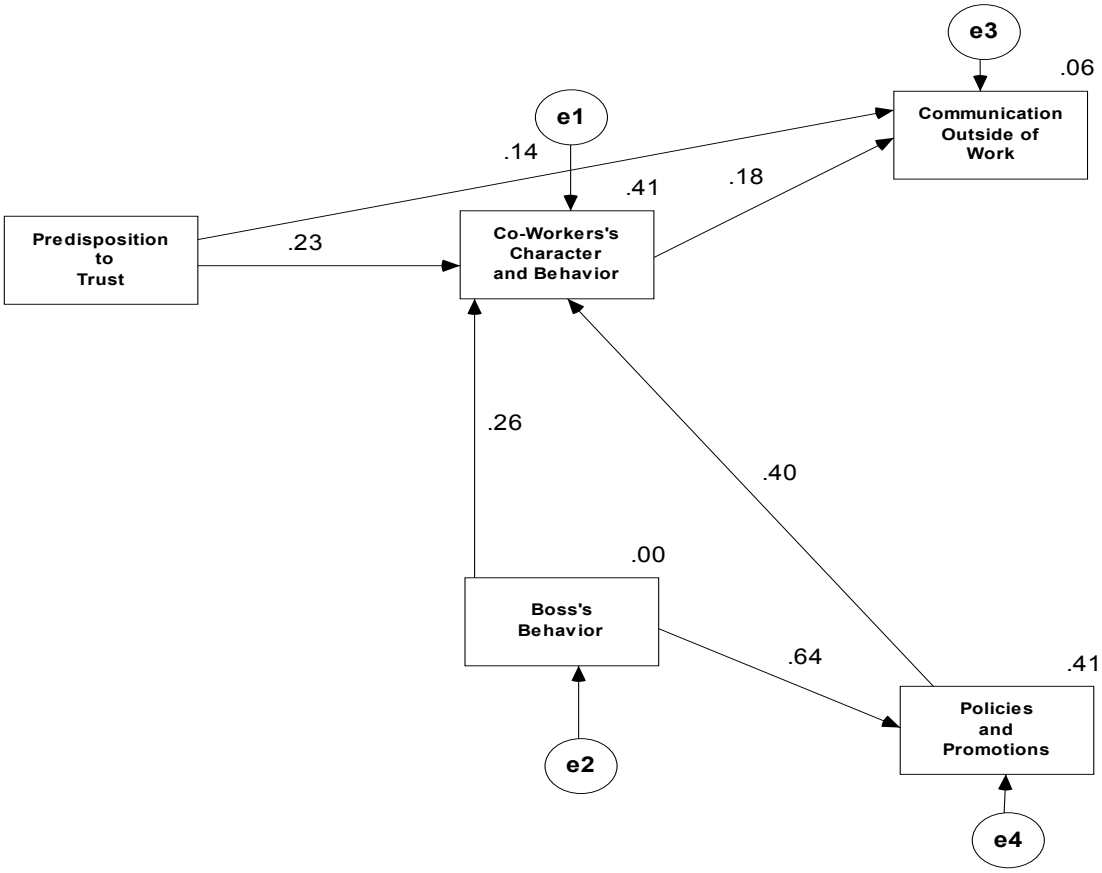


Table 3.25 Model Summary For The Military-Type Organization Path Model

	Previous Model	New Model
DF	7	4
χ^2	16.841	7.275
p-value	.018	.122
NFI	.984	.993
CFI/IFI	.990	.997
AIC	56.841	39.275
RMSEA	.040	.031
Cr. N	945	1572

Re-estimation of the overall model

After removing the Predisposition to Distrust component from the model of civilian organization, the full model was re-estimated in order to determine whether the elimination of one of the substantial components from the civilian application allows to theoretically strengthening the model. Table 3.26 at emerged after eliminating the double-loading question, and the new model that allowed reducing the total instrument by another three items.

Table 3.26 Comparison Of The Two Full Models Produced During The Analysis

	Full Model 1	**Full Model 2**
DF	491	408
χ^2	1003.781	1024.864
p-value	0.000	0.000
NFI	0.952	0.950
NNFI	0.971	0.965
CFI/ IFI	0.975	0.969
GFI	0.934	0.927
AIC	1243.866	1223.846
RMR	0.0354	0.0378
RMSEA	0.0359	0.0427
Cr. N	487.204	402.054

The comparison of the two models shows that the first full model, in spite of containing three extra items, provides an overall better fit to the data. This is evidenced by a smaller value of the chi-square accompanying a substantially larger number of degrees of freedom (df1=491 V df2= 408, $\chi^2$1=1003.781 < χ^2=1024.846), larger values of the fit indices and the value of the Critical N (487.204 > 402.054) and smaller values for RMR (.0354<.0378) and RMSEA (.0359<.0427) indices. Based on these findings it is possible to conclude that, although elimination of the predisposition to distrust dimension allows for a better understanding of the inter-factor dynamics within a civilian setting, the

presence of this dimension is still theoretically important. Therefore, there are no grounds for eliminating the items pertaining to the predisposition to distrust from the final model.

DISCUSSION

Over the past two decades, interest in the implications of trust for organization-building have increased drastically in both academia and industry. Such growth of interest toward the matter tends to be attributed to two major factors. On the one hand, the rapid development of various communication technologies and the tendency toward globalizing the production and services have led to a decentralization of work and an increase in professionalization in the form of vocational training allowing employees more independent work with more individual decision-making power on the job (Faunce, 1981; Kipnis, 1996; Zolin & Hinds, 2004; McEvily & Zaheer, 2004). On the other hand, the recent change in managerial philosophy toward an approach of human investment that calls for helping employees to advance professionally advance by providing them with timely trainings has tended to employees to learn more about the new developments in their field and improve their performance on the job (Creed & Miles, 1995; 1996). Thus, along with the growing necessity on the part of the employers to allow more vocational flexibility, prowess and discretion for employees, managers have discovered that developing and maintaining trust in their organizations has become more crucial than ever before.

A vast number of studies have concentrated on the positive effects of trust on organizational well-being. The general consensus among scholars is that under the conditions of mutual trust (*i.e.,* employee-to-employee, employee-to-employer, employer-to-employee and individual trust in an organization overall) organizations tend to have less employee turnover, higher job performances and levels of commitment (Cullen et al., 2000; Gilliand & Bello, 2002). A stable state of trust within and between

organizations also enables more cost-effective and timely facilitation of business relationships resulting in the lowering of transaction costs and higher profits for participating sides (Williamson, 1993; Cummings & Bromiley, 1996; Creed & Miles, 1996). It is has been also noted that organizations with higher levels of trust have higher levels of productivity that is largely due to the cooperation of employees and subsequent increased time of task completion (Lewicki & Bunker, 1996; Glaser, 1997; Bachman, 1998; Kramer, 1999; Shockley-Zalabak, 2000).

The broad array of findings on various positive effects and outcomes of trust building in organizations is, however, incomplete. One of the major weaknesses in the existing research is grounded in the fact that while admitting a complex nature of trust, most studies look at it from a one-dimensional standpoint, attributing the emergence of trust in an organization to the development of interpersonal relationships on horizontal and vertical levels. While this is true, such approach contradicts the characteristics of impersonality that remains one of the important features of formal organizations (Weber, 1914; Ritzer, 2000). In addition, a diversity of views on what constitutes trust in general, and trust in an organization in particular, leads to the lack of an adequate way to measure this phenomenon and, subsequently, a measurement tool fit for the task.

There is another gap in the body of research on organizational trust. Over the course of pursuing the topic, scholars have been studying various organizations -- hotels, hospitals, small businesses and sports teams, that are, essentially, bureaucracies. Conclusions made on the basis of those studies implied that organizational trust works in the same manner in all organizations. Such assumption is a fair one, considering the innate similarities between these bureaucratic structures, yet, conceptualizing

organizational trust as a pure result of interpersonal relationships based on other people's good character, reliability and honesty presents an incomplete and unsophisticated view of this complex matter.

As a result of these shortcomings, this research was envisioned as a response to the disparities in studies of organizational trust. To do this, the study has pursued two main goals: a) to test and validate a new measuring tool that brings together all six major factors that are named in the literature as prerequisites of individual intention to trust and b) to compare two types of bureaucratic organizations to investigate whether presence of some structural differences can account for the difference in formation of individual intention to trust.

The first research question asked was whether an individual intention to trust in a civilian organization accounted for the same six factors found in the organization of a military type. This research question was supplemented by six sub-hypotheses that proposed the presence of each individual factor. The results of both the exploratory and the confirmatory factor analyses made it possible to conclude that an individual intention to trust in a civilian organization is influenced by the same six factors – (a) propensity to trust, (b) co-workers' character and behavior, (c) interactions outside of the organization, (d) organizational structure, (e) boss's character and behavior, and (f) propensity to distrust– that are found in the organization of a military type.

These findings reflect the similarities of the organizations. Despite the fact that police organizations are viewed as military-type organizations operated by sworn personnel, the ongoing organizational transformations resulted in change in organizational practices and employment of civilians for staff duties (*i.e.,* administrative,

clerical, technical) (Reiss, 1992). Professional nature of both organizations requires extensive training and credentials for the members of the operational core, which consists of sworn officers in law enforcement agencies and faculty members in universities. Each organization maintains a hierarchy of offices, is differentiated and follows a set of rules.

These findings also allowed accepting the fourth hypothesis that suggested that the Organizational Trust Questionnaire, created for assessment of organizational trust in a law enforcement agency, is equally appropriate for assessment of trust in a civilian organization. As the validation of the instrument in total and each of its parts separately demonstrated a strong match between the model and the data, and each of the scales produced high reliability scores, there was enough evidence to support the hypothesis and assume that the new instrument could be used equally in both organizational types.

While the first and the fourth hypotheses were based on the assumption of organizational similarities that allow suggesting an influence of the same factors on individual intention to trust in organization, the second and third hypotheses and the second research questions aimed at organizational differences. The existing research that concentrates on structural issues of the law enforcement agencies and higher education facilities suggests that the two organizational types differ along the formalization and centralization dimensions.

In spite of the ongoing structural transformations in the police force that promoted civilian hiring for the staff positions (as opposed to preserving the quasi-military system of hiring solely sworn employees for all organizational positions) and steering away from the military rank titles, law enforcement agencies remain highly centralized and formalized entities. Downward communication flow and system of orders that are still

used in this organizational type require strict adherence to the existing rules and compliance with the existing hierarchy (Van Maanen, 1975; Sandler and Mintz, 1974; Smith, Locke, Walker, 1977; Langworthy, 1986; Furman, 1997; Swanson, Territo & Taylor, 2001).

Universities, representing the same domain of professional bureaucratic organizations, have an inherently different approach to decision- and policy-making. As highly decentralized entities, universities are characterized by a high level of dispersion when it comes to making decisions. Certain decisions (*e.g.,* budget allocations) are left solely to the unit administration, and others (*e.g.,* syllabi development and course content) – to the faculty. However, there are organizational decisions that are distributed among a diverse group of employees including administration, faculty and the student body (Mason, 1972; Dressel, 1981; Fincher, 2003). Such diffusion in organizational decision-making of universities contradicts the rigid centralization of the police; and, subsequently, becomes the grounds for profound differences in internal processes that occur in the two organizational types.

The second hypothesis suggested that the influence of a boss's perceived character and behavior on individual intention to trust would differ in civilian and military-type organizations. The analysis of the models demonstrates that this factor is strongly related to the structural elements of organization – the way organizational policy is made and promotions are implemented – in both organizational types. This similarity is explained through to the nature of hierarchical relationships in any organization, as organizational policies are usually made and enforced on the supervisory level. Since promotions are also given by supervisors, the connection between bosses and the way

organizations are run is assumed automatically. However, models exhibited a profound difference that is related to the effects perceived boss's character and behavior has on factors other than structural. In the model created for the military-type setting, this dimension is not associated with anything else; yet, a civilian setting shows that boss's perceived character and behavior have a direct effect on the way co-workers are perceived. This finding suggests that the perception of a supervisor as a positive character contributes to creating a positive perception of peers and vice versa (when a negative perception of a supervisor could lead to a decrease in a positive view of co-workers). As this relationship is partially mediated by elements of the organizational structure, the explanation of this phenomenon has to be tightly intertwined with the explanation of the effects of structural elements in the two organizations.

The third hypothesis suggested that structural elements (reflected in policies and promotions) would have a different influence on expressed organizational trust in civilian and military-type organizations. The analysis showed a significant difference in the factor means between the two organizations, so further examination of the models was necessary. It was found that the structural elements, *i.e.,* policies and promotions, have an effect on the way co-worker's character and behavior is perceived. In both cases the relationships between the factors is significant, however, the direction of relationships differs. So, in a military-type organization, structural elements have a negative effect on individual perception of his/her peers, while in a civilian organization the relationship is positive. The negative effect indicates that when the scores on one dimension increase, the scores on the other decrease, while the positive effect indicates that when the scores on one dimension increase, the scores on the other dimension increased as well. Such

dissimilarity in relationships between the factors in the two organizations is consistent with the existing literature (Sandler and Mintz, 1974; Dressel, 1981; Langworthy, 1986; Furman, 1997; Swanson, Territo & Taylor, 2001; Fincher, 2003) and may be attributed to the differences in the decision-making processes in the two organizations.

In a centralized and formalized police organization the vast majority of organizational decisions are made by the supervisors and become executed from top down. At the same time, this rigid top-down approach in a military-type organization is supplemented by the close association between perceived boss's character/ behavior and implementation of policies and promotions (*i.e.,* structural factor). Such combination results in disassociating employees from the policy making and breaking process, leaving it up to the supervisor's discretion. Therefore, violations of organizational policies and promotions become linked primarily to the upper-organizational level as well. Lack of collaboration on policy-making on the part of non-supervisory employees along with the norm of obedience to the organizational rules and orders from superiors creates basis for camaraderie on the horizontal level in the organization: unfair policies come from unfair supervisors and co-workers can commiserated with each other over that fact, as they have to experience the same policies and the same unfairness without much leverage for change.

In the case of a civilian, particularly, a professional organization, the relationship between the factors is of a different nature. A less rigid structure and a higher degree of independence in professional work (*i.e.,* various expertise among professional and scientific staff or faculty that allow for a substantial leeway in how to do the job) in combination with decentralized decision-making create an environment that associates

policy decisions with peers rather than directly and solely with supervisors. Subsequently, when organizational policies appear to be violated, positive perception of co-workers' character and behavior tends to decrease, and vice versa – when organizational policies appear to be fair, positive perceptions of co-workers character and behavior tend to increase. In contrast with the military-type organization, where the relationships between the two factors are relatively weak, behaviors, exhibited in a civilian organization, tend to be much more prominent factor.

The second research question was posed to continue investigating the differences and similarities of the two organizational types, inquiring as to whether the perception of co-workers and its influence on other dimensions of the model differ substantially between the two organizations.

The analysis of the means revealed a minimal difference between the factor scores in the two organizations. A supplemental test conducted to compare the perceived co-worker's character and behavior between the sworn employees of the military-type setting and all the civilian employees in the dataset (both the non-sworn employees of a law enforcement agency and the university employees) showed no significant difference in perception of fellow workers between the employees of the two organizational types. Further investigation of this question confirmed: although different in strengths, the relationship of the perceived co-workers' character and behavior to other dimensions remained the same. Co-workers' perception is influenced by an individual predisposition to trust and is positively related to the extra-organizational dimension, reflected in the amount and nature of relationships between co-workers outside the working hours.

Thus, it is logical to conclude that when co-workers are perceived as honest, reliable, cooperative and otherwise benevolent, the amount of communication outside of work increases, while negative perception of peers leads to the decrease in extra-organizational relationships. People, then, tend to develop friendships with those who they perceived as good and trustworthy and whose company they enjoy, while relationships remain formal (or do not progress outside of the workplace) with the people who are perceived as dishonest, unreliable and whose work merits are questionable. These relationships are partially mediated by the predisposition to trust dimension: when the first impressions about co-workers are positive, the likelihood of developing positive perceptions of them in the future and subsequent development of friendship outside the work place increases.

Over the course of the analysis, the scores for predisposition to distrust were compared in both organizations in order to determine whether perceived negative behaviors and general disposition (such as gossiping, complaining or showing bad attitude upon the first meeting), have a similar effect on individual intentions to trust in both organizations. The lack of statistical difference in scoring on this dimension allows suggesting that certain behaviors impede individual intention to trust regardless of the organization of employment. The universality of this dimension could be explained by the fact that such behaviors contribute to creation of a negative organizational culture and, as a consequence, tend to hinder establishing cooperative working relationships in both types of organizations.

Demographic findings

Various demographic characteristics were also analyzed in respect to individual intentions to trust in a military-type and in a civilian organization. The characteristics investigated were sex of respondents, their status in organization (sworn versus civilian for police employees and temporary versus permanent for university personnel) and their position within the organization.

The analysis revealed that there is no difference between the individual intention to trust scores of men and women in both organizations. This finding is compliant with the previous studies that outline the prerequisites for trust as cultural universals. According to the existing body of research, people perceived others as trustworthy, when they are also viewed as reliable, benevolent, skilful and fair, and, while the interpretations of such qualities can vary, people tend to have adequate perceptions of these qualities. This is mostly due to the fact that these qualities lie in the overarching system of values that people are integrated into; so, while the degrees of personal integration might differ, they tend to be instilled on all social levels regardless of individuals' ascribed statuses (*i.e.,* sex) (Scott, 1967; Parsons, 1971).

The same explanation could be partially attributed to the similarity in intention to trust between temporary and permanent university employees. However, such similarity is also consistent with the studies on trust typology and basic organizational characteristics. Classical outlook on bureaucracies prescribes impersonal, merit-based hiring and further contractual relationships that adhere to various rules and regulations of an organization, which also includes regulations of an individual well-being in an

organization, such as pay and career advancements (Weber, 1914; Gouldner, 1954; Roethlisberger & Dickinson, 1967; Scott, 1967).

On the other hand, studies of organizational trust have introduce calculus-based (or deterrence-based) trust. This type of trust is rooted in the degree of adherence to an existing contract between the trusting parties and the consistency of the parties' behavior over the entire course of the applicability of such contract (Sahpiro, Sheppard and Cheraskin, 1992; Lewicky & Bunker, 1996). The contract usually outlines positive and negative sanctions that would be applied to parties if the contract is violated. In reality, the employees of all formal organizations are bound by certain contracts; therefore, they are aware of their obligations and rights in regard to their workplace. Since both permanent and temporary employees initially operate under the premise of such contractual, deterrence-based relationships, their overall tendency to trust should not differ vastly.

The last comparison was made between the sworn employees of the law enforcement agency and three major positional domains of the university – faculty, professional, and scientific and merit. Such comparison was made on the basis of the core differences that exist between the two organizations. According to Mintzberg's typology (1983), sworn employees and faculty present the "operating core" of the organization, while professional and scientific employees in universities represent "technostructure" (experts with relatively narrow job descriptions), and merit employees are the "support staff". Military-type law enforcement agencies employ civilians for both support and technostructure positions (Reiss, 1992). Comparisons were made across the groups to

determine whether there was a difference in overall intention to trust scores between each of the groups.

The results revealed several distinctions between the groups. First, the police employees, both sworn and civilian, tend to have lower intention to trust scores. Most likely, this tendency can be accounted for the nature of the police work itself – a necessity to constantly question the surroundings while being subjected to higher occupational risks, which could deflate the individual potential to trust. However, within the police organization, sworn employees had slightly higher mean scores than civilian employees. That difference could be attributed to the fact that sworn employees tend to operate under the same military-type environment that requires implicit obedience toward the higher rank: having to follow orders without questioning is supplemented by a certain degree of trust in superiors on the part of a sworn employee (Langworthy, 1986; Furman, 1997; Swanson, Territo & Taylor, 2001).

The second finding revealed that both faculty and professional and scientific employees of the university had a higher tendency to trust than any employee of the police organization, either civilian or sworn. This difference could be explained by two influential factors – a) the specifics of the police work that require vigilance as opposed to approaching people and situations with a sense of natural trustworthiness; b) the specifics of a university structure that permits for decentralization and collaboration on organizational decisions. The more open atmosphere of a university could contribute to the creation of a trusting organizational environment, while rigidity and certain oppressive tendencies (Sandler and Mintz, 1974) of police organization could hinder it.

The third finding showed that among the cross-group comparisons, two groups had no significant difference in their tendency to trust – sworn employees of the police and merit employees of the university. The explanation for this phenomenon is largely structural: among other positional domains of the civilian organization, merit employees (or support staff) operate under the highest degree of formalization and centralization (Mintzberg, 1983). Such practices, being similar to those of the police organization, influence similarities in the development of individual intention to trust.

Implications for the industry

The technical part of this study – the validation of the OTQ on a civilian organization – has valuable implications for the industry. The Questionnaire is designed in such a way that it can be used both as a tool for assessment allowing managers to evaluate the overall employees' tendency to trust in the organization and as a tool for diagnostics of the weaknesses that undermine this tendency.

As the instrument consists of six separate sub-scales targeting six separate elements that contribute to the overall development of individual intention to trust[8], each scale presents an assessment of each of the six areas. As the lower scores on an individual dimension indicate the necessity for improvement, the weak area could be targeted individually, without the needs to implement a large-scale change.

Understanding the differences between the two organizational types is also beneficial for organizational leaders. As certain dynamics between the influential factors

[8] a) propensity to trust, (b) co-workers' character and behavior, (c) interactions outside of the organization, (d) organizational structures, (e) bosses' character and behavior, and (f) propensity to distrust

differ, they should be accounted for organizational changes or administrative policy-making. Thus, law enforcement executives must realize that centralized decision-making could evolve into alienation between the employees and supervisors, which, as a consequence, would decrease the levels of organizational trust, making the organization more susceptible to crises and instability. Thus, new organizational practices should be implemented, specifically those that promote collaboration and strengthen the relationships between vertical and horizontal organizational levels.

Limitations of the study

Despite the fact that the planning and the technical implementation of the study through a web-based survey allowed avoiding the usual major constraints of quantitative studies – insufficient sample size (due to monetary constraints) and low response rates (due to the hassle of paper-pencil fill out process and subsequent mailing of the envelope), the study encountered several factors that limit the applicability of the results. The limitations are related mainly to the number of organizations compared, the time frame in which the study was completed and certain population confinements unaccounted for during the data collection.

The main constraint of this study that limits its inferential power is the fact that only two organizations were compared. Although it was supported during the analysis that sworn employees of a military-type organization and civilian employees tend to score differently on five out of six proposed dimensions, it is hard to conclude to conclude that the present difference is solely due to the distinction of the organizational type on the basis of comparing only two organizations. Therefore, although this study provides a valuable insight into the potential differences between the way individual

intentions to trust are being formed in a military-type and a civilian professional bureaucracy, to ensure the accuracy of this conclusion, it is necessary to compare a larger number of organizations of the two types.

In addition to this constraint, it is important to mention the sample size issue. The civilian sample in this study is two times the size of the sample obtained from the military-type organization; thus, the number of sworn employees in it is rather small. So, in order to conduct a more profound analysis of the differences in question, surveying more organizations of both types is crucial, as it will allow obtaining largeer aggregated samples of sworn and civilian respondents.

Another limitation of this study is related to two potential confinements of the gathered data, both of which are rooted in the available sampling frame. The e-mail list of the university's employees available for the study was not stratified by the departments and/or types of jobs the employees perform. Partially, that was done in order to protect the anonymity and privacy of the respondents. As a trade off to both availability of the list and the precautions for subjects' protection, the list contained a number of employees belonging to the extension services not located on the university premises who rarely meet their colleagues in person. Due to the structure of the e-mail list and the questionnaire, it was impossible to identify all such employees, unless they filled out the option "other". Some, however, could have filled out "professional and scientific", which also fits the profile for extension employees. As it is impossible to determine exactly how many respondents are extension employees, the actual size of error is not known. Yet, it is possible to suggest that the number is relatively small, so the results obtained during the analysis are still viable.

An important limitation of this study concerns the origin of the items, generated for the main survey. The items were generated by the police officers that participated in the open-ended pilot survey distributed in 2000. Although deriving the items from the actual source of the study was beneficial for the assessment on the police agency, using the same items could have presented a challenge for assessing a university. The potential differences in personalities and educational levels between the employees of the two organizations could have influenced the types of issues raised in the items and the types of issues that are lacking from them. For example, the police employees brought up issues of favoritism among supervisors, while assessment of the university demonstrated that this matter is not very prominent. Similarly, there could have been items generated by the university employees that were not present in the routine of the police personnel. However, since the survey was initially constructed from the responses of the police employees, certain aspects that are particular to the university work are not known. A future correction of this limitation is possible through distributing the same open-ended survey to the employees of a university and comparing the results with the initial police survey.

Next confinement pertains to the fact that the significant part of the analysis has been done using the data from the entire organization, not separated by the type of position held by respondents. Certain aspects of the analysis revealed that in professional bureaucracies employees of the professional core responded differently from the other organizational members. This difference is reflected in the analysis and comparison of the overall organizational data; however, a more detailed comparison by separation of the core from the other employees' responses hasn't been done. This can be accounted for

the insufficiency of the sample size of the core employees: in both cases the number of core respondents borderlined on two hundred, which does not meet the minimum requirement for an elaborate factor analysis of an instrument of 35 items.

This confinement was, however, addressed by performing several less elaborate statistical tests in order to determine the actual presence of response difference. Future extension of this research will help address this issue further, when a sufficient data is gathered from the core employees of other organizations and aggregated for further comparison.

This study is also constrained by the common methodological issue in organizational studies: the relationships between the level of analysis and unit of analysis. The paradox of these relationships lays in the fact that although organizational studies intend to generalize for the organization as a unique entity, the information is usually derived from the individuals that work in such organization. Hence, inquiries on the organizational level of analysis are most commonly done with the individuals as units of analysis. Such incongruence leads to obtaining the results that are not pertinent to other organizations, as they reflect solely the perceptions of individuals employed by the organization under study. Current research uses a questionnaire that inquires about the perceptions that employees of the two organizations have about their superiors, their peers and organizational policies. Therefore, the results of the analysis could be extended solely to the comparison of the views of the individuals within the two organizations.

Time constraints, as well as the nature of the instrument, have limited the study to the distribution of the questionnaires and quantitative data analysis. Interviews with the staff members and observations of employees' behavior during meetings would have

helped provide a triangulated perception of the formation of individual intention to trust in a civilian organization. However, given the size of the organization and a variety of the departments and existing positions, an in-depth qualitative data collection was hard to conduct within the given time frame.

Due to the unfeasibility of in-depth qualitative data gathering and subsequent analysis, a series of focus groups with employees representing each of the three major position types (*i.e.,* faculty, professional and scientific) would have been beneficial. Conducting focus groups could have provided this study with valuable supplemental qualitative information about the influence of the proposed six factors on individual intention to trust in organizational settings. Focus groups could have provided an outlet for the researcher to ask follow-up questions and discuss the respondents' perceptions of the items used in the instrument in order to determine whether the items hold the same face validity to the employees of the civilian organization, as they held for the employees of a military-type organization, used as a source of creating the items at the beginning of the project.

Strengths of the study

The study possesses several strengths that make it a viable contribution to the area of organizational research in general and to research on organizational trust in particular.

The topic of organizational trust remains central to the studies of organization(s) over the past twenty years. Therefore, learning more about the factors that contribute to or hinder the development of trusting relationships in organizations is becoming especially important today, as it has a potential of helping organizations create a more

secure and stable future for their employees. This study introduces a modernized model of trust that incorporates six major dimensions that were proposed separately by various studies done previously, yet, they were never assembled in one model that allows to obtain a view of how an individual intention to trust others at work is formed in all its complexity.

As described in the literature review, most outlooks on the phenomenon of trust in general and organizational trust in particular took extreme stands on the points of origin of trusting behavior, attributing trust to pure rationality or to it being solely a product of relationships. The present model combines the two and suggests that individuals intend to trust others in work settings is influenced not only by both rationality and relational outcomes, but also by certain organizational characteristics – precisely, policies and promotions – that could both foster and undermine individual sense of vocational well-being, hence, affecting his/her intention to trust. The data analysis conducted during the study confirmed the viability of the model, by that expanding the existing view of organizational trust.

The study focused on formation of trust in professional bureaucracies – one of the most prevalent ways of organizing work nowadays. Although the existing body of research concentrated on studying issues of organizational trust in a variety of settings - both professional and traditional bureaucracies, as well as in such new organizational forms as networks, matrices and emergent task-teams ("tiger teams", Weick, 1996) – organizational similarities and transferability of trusting behaviors within organizations were always assumed.

Challenging the usual approach to organizational inquiries, this study investigated whether the nature of the organizational mission affects differences in a way individual intention to trust is formed in otherwise structurally similar organizational settings. Two types of professional bureaucracies – a military-type organization, represented by a law enforcement agency, and a civilian-type organization, represented by a university – were compared. The study discovered that although the six suggested factors affecting individual intention to trust in organization are present in both organizational types, the ways each factor contributes to intention to trust as an outcome highly depends on the nature of the organization. So, when it comes to perceiving the organizational structure or adhering to the organizational hierarchy, sworn employees of a military type organization generally form their intention to trust differently from any civilian employees. However, a positive perception of co-workers' character and character has a similar influence on one's intention to trust, regardless of the organizational type.

A new measuring instrument (the OTQ) for assessment of the overall state of trust in an organization is being has been introduced and validated. This instrument can also be used as a diagnostic tool for discovering the areas that require improvement. The concept behind the OTQ is that in organizational settings, primarily impersonal and based on pursuit of common organizational goals, intervention into personal characteristics of individual employees with intent to change personalities in order to provide a better organizational fit is inappropriate and largely futile. Therefore, attempts to modify intra-organizational relationships should be based on factors that lay outside of individual personalities, rather, behaviors that could be promoted as an integral part of

organizational culture and structure, and, hence, are more susceptible to and open for change.

The instrument was validated over the course of two years and applied to different two different organizations. The samples obtained during the validation stages were substantial enough to allow for a variety of statistical processing, which made it possible to transfer a theoretical concept into tangible, empirical means and make it available for testing.

As a result, the instrument, consisting of six sub-scales that measure six dominant factors influencing individual intention to trust others in organization, provides a highly reliable and valid tool for measuring one's intention to trust in both military- and civilian-type bureaucracies. This ensures its wide application and, subsequently, its ability to potentially benefit a variety of organizations in the industry. The validation of the tool also has academic benefits, as it is possible to employ it for future research of organizational trust in other organizational forms.

Future directions

The future direction of the research using the OTQ as the model and the assessment tool, and also for continuing the validation of the instrument, should include an application of the OTQ to studying multiple civilian organizations of different nature, such as media entities, financial companies, hospitals and stores. Such studies will help obtain a comparatively larger number of responses, and represent more of an existing variety of civilian organizations. Having a variety of organizations surveyed would permit further aggregation of data and investigation on an organizational level. It would

also allow determining whether the main difference in formation of individual intention to trust rests on the distinction between military- and civilian-type of organization, or whether various missions of civilian organizations also contribute to such differences.

It is important that along with the distribution among the variety of civilian organizations, the OTQ is distributed in various military organizations, such as army divisions, military academies and local recruiters' stations. This step in research would permit the completion of the comparison of individuals' intentions to trust under conditions of different organizational types. As in the case of civilian organizations, it would be beneficial to ensure that certain similarities in the ways individual intention to trust is formed in organizations of military-type that are due to the type of the organization and not due to random circumstance.

Upon completing the validation of the instrument and establishing influential factors across civilian, paramilitary and military organizations, it would be useful to expand the study of studying organizations that employ modern organizational models, such as network and matrix. Knowing how different organizational structures influence individuals' intentions to trust would allow researchers to develop general patterns that would indicate common weaknesses and strongholds of those structures. Determining and making such patterns known would aid organizations in resolving their internal problems and would help advancing the academic knowledge of the subject of organizational trust.

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APPENDIX 1. Regression Model Summaries

A. Model Summary on Propensity to Trust

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.896	.802	.801	.44589023	.802	947.985	1	234	.000
2	.944	.890	.889	.33260630	.088	187.543	1	233	.000
3	.961	.924	.923	.27784582	.033	101.894	1	232	.000
4	.970	.940	.939	.24670326	.016	63.270	1	231	.000
5	.976	.952	.951	.22085287	.012	58.241	1	230	.000
6	.980	.960	.959	.20259985	.008	44.310	1	229	.000
7	.981	.963	.962	.19544665	.003	18.069	1	228	.000
8	.982	.964	.963	.19218476	.001	8.805	1	227	.003
9	.983	.966	.965	.18830785	.002	10.443	1	226	.001
10	.983	.967	.965	.18599008	.001	6.668	1	225	.010
11	.984	.968	.966	.18391254	.001	6.112	1	224	.014

a Predictors: (Constant), 006 When I first meet a co-worker, I trust them if they are considerate.
b Predictors: (Constant), 006 When I first meet a co-worker, I trust them if they are considerate., 032 When I first meet a co-worker, I trust them if they are patient.
c Predictors: (Constant), 006 When I first meet a co-worker, I trust them if they are considerate., 032 When I first meet a co-worker, I trust them if they are patient., 059 When I first meet a co-worker, I trust them if they are personable.
d Predictors: (Constant), 006 When I first meet a co-worker, I trust them if they are considerate., 032 When I first meet a co-worker, I trust them if they are patient., 059 When I first meet a co-worker, I trust them if they are personable., 086 When I first meet a co-worker, I trust them if they are confident.
e Predictors: (Constant), 006 When I first meet a co-worker, I trust them if they are considerate., 032 When I first meet a co-worker, I trust them if they are patient., 059 When I first meet a co-worker, I trust them if they are personable., 086 When I first meet a co-worker, I trust them if they are confident., 041 When I first meet a co-worker, I trust them if they are helpful.
f Predictors: (Constant), 006 When I first meet a co-worker, I trust them if they are considerate., 032 When I first meet a co-worker, I trust them if they are patient., 059 When I first meet a co-worker, I trust them if they are personable., 086 When I first meet a co-worker, I trust them if they are confident., 041 When I first meet a co-worker, I trust them if they are helpful., 001 When I first meet a co-worker, I trust them if they cooperate.
g Predictors: (Constant), 006 When I first meet a co-worker, I trust them if they are considerate., 032 When I first meet a co-worker, I trust them if they are patient., 059 When I first meet a co-worker, I trust them if they are personable., 086 When I first meet a co-worker, I trust them if they are confident., 041 When I first meet a co-worker, I trust them if they are helpful., 001 When I first meet a co-worker, I trust them if they cooperate., 011 When I first meet a co-worker, I trust them if they seem sincere.
h Predictors: (Constant), 006 When I first meet a co-worker, I trust them if they are considerate., 032 When I first meet a co-worker, I trust them if they are patient., 059 When I first meet a co-worker, I trust them if they are personable., 086 When I first meet a co-worker, I trust them if they are confident., 041 When I first meet a co-worker, I trust them if they are helpful., 001 When

I first meet a co-worker, I trust them if they cooperate., 011 When I first meet a co-worker, I trust them if they seem sincere., 025 When I first meet a co-worker, I trust them based on their willingness to listen.

i Predictors: (Constant), 006 When I first meet a co-worker, I trust them if they are considerate., 032 When I first meet a co-worker, I trust them if they are patient., 059 When I first meet a co-worker, I trust them if they are personable., 086 When I first meet a co-worker, I trust them if they are confident., 041 When I first meet a co-worker, I trust them if they are helpful., 001 When I first meet a co-worker, I trust them if they cooperate., 011 When I first meet a co-worker, I trust them if they seem sincere., 025 When I first meet a co-worker, I trust them based on their willingness to listen., 078 When I first meet a co-worker, I trust them if they are respectful.

j Predictors: (Constant), 006 When I first meet a co-worker, I trust them if they are considerate., 032 When I first meet a co-worker, I trust them if they are patient., 059 When I first meet a co-worker, I trust them if they are personable., 086 When I first meet a co-worker, I trust them if they are confident., 041 When I first meet a co-worker, I trust them if they are helpful., 001 When I first meet a co-worker, I trust them if they cooperate., 011 When I first meet a co-worker, I trust them if they seem sincere., 025 When I first meet a co-worker, I trust them based on their willingness to listen., 078 When I first meet a co-worker, I trust them if they are respectful., 036 When I first meet a co-worker, I trust them if they are knowledgeable.

k Predictors: (Constant), 006 When I first meet a co-worker, I trust them if they are considerate., 032 When I first meet a co-worker, I trust them if they are patient., 059 When I first meet a co-worker, I trust them if they are personable., 086 When I first meet a co-worker, I trust them if they are confident., 041 When I first meet a co-worker, I trust them if they are helpful., 001 When I first meet a co-worker, I trust them if they cooperate., 011 When I first meet a co-worker, I trust them if they seem sincere., 025 When I first meet a co-worker, I trust them based on their willingness to listen., 078 When I first meet a co-worker, I trust them if they are respectful., 036 When I first meet a co-worker, I trust them if they are knowledgeable., 097 When I first meet a co-worker, I trust them when they confide in me.

B. Model Summary on Co-Workers' Character and Behavior

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.818	.670	.668	.57580054	.670	474.800	1	234	.000
2	.902	.813	.812	.43392858	.143	179.025	1	233	.000
3	.924	.853	.851	.38537280	.040	63.413	1	232	.000
4	.930	.865	.863	.36994217	.012	20.758	1	231	.000
5	.936	.876	.873	.35646553	.010	18.797	1	230	.000
6	.938	.881	.877	.35004239	.005	9.518	1	229	.002
7	.940	.884	.881	.34517984	.004	7.497	1	228	.007
8	.942	.888	.884	.34076497	.003	6.946	1	227	.009
9	.943	.890	.885	.33846797	.002	4.092	1	226	.044

a Predictors: (Constant), 043 People in my organization are dependable.

b Predictors: (Constant), 043 People in my organization are dependable., 112 People in my organization get things done correctly.

c Predictors: (Constant), 043 People in my organization are dependable., 112 People in my organization get things done correctly., 089 People in my organization do their jobs.

d Predictors: (Constant), 043 People in my organization are dependable., 112 People in my organization get things done correctly., 089 People in my organization do their jobs., 005 People in my organization are willing to do more than what is on their job descriptions.

e Predictors: (Constant), 043 People in my organization are dependable., 112 People in my organization get things done correctly., 089 People in my organization do their jobs., 005 People in my organization are willing to do more than what is on their job descriptions., 044 People in my organization are honest.

f Predictors: (Constant), 043 People in my organization are dependable., 112 People in my organization get things done correctly., 089 People in my organization do their jobs., 005 People in my organization are willing to do more than what is on their job descriptions., 044 People in my organization are honest., 081 People in my organization are hard working.

g Predictors: (Constant), 043 People in my organization are dependable., 112 People in my organization get things done correctly., 089 People in my organization do their jobs., 005 People in my organization are willing to do more than what is on their job descriptions., 044 People in my organization are honest., 081 People in my organization are hard working., 104 People in my organization take responsibility for mistakes.

h Predictors: (Constant), 043 People in my organization are dependable., 112 People in my organization get things done correctly., 089 People in my organization do their jobs., 005 People in my organization are willing to do more than what is on their job descriptions., 044 People in my organization are honest., 081 People in my organization are hard working., 104 People in my organization take responsibility for mistakes., 034 People in my organizaiton follow through when asked to do something.

i Predictors: (Constant), 043 People in my organization are dependable., 112 People in my organization get things done correctly., 089 People in my organization do their jobs., 005 People in my organization are willing to do more than what is on their job descriptions., 044 People in my organization are honest., 081 People in my organization are hard working., 104 People in my organization take responsibility for mistakes., 034 People in my organizaiton follow through when asked to do something., 102 People in my organization have good reputations.

C. Model Summary on Boss's Character and Behavior

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.822	.676	.675	.57044555	.676	488.170	1	234	.000
2	.901	.813	.811	.43484356	.137	169.697	1	233	.000
3	.915	.838	.836	.40537769	.025	36.103	1	232	.000
4	.920	.847	.844	.39454227	.009	13.918	1	231	.000
5	.924	.854	.851	.38662597	.007	10.556	1	230	.001

a Predictors: (Constant), 123 My boss does not listen to me.

b Predictors: (Constant), 123 My boss does not listen to me., 107 My boss supervises by intimidation.

c Predictors: (Constant), 123 My boss does not listen to me., 107 My boss supervises by intimidation., 042 My boss plays favorites.

d Predictors: (Constant), 123 My boss does not listen to me., 107 My boss supervises by intimidation., 042 My boss plays favorites., 061 My boss lies.

e Predictors: (Constant), 123 My boss does not listen to me., 107 My boss supervises by intimidation., 042 My boss plays favorites., 061 My boss lies., 082 My boss supervises by threats.

D. Model Summary on Extra-Organizational Factors

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.882	.779	.778	.47156573	.779	822.777	1	234	.000
2	.921	.848	.847	.39102364	.070	107.325	1	233	.000
3	.942	.888	.887	.33646543	.040	82.689	1	232	.000
4	.953	.908	.907	.30547039	.020	50.469	1	231	.000
5	.958	.918	.917	.28877884	.010	28.476	1	230	.000
6	.959	.920	.918	.28569195	.002	5.997	1	229	.015

a Predictors: (Constant), 103 My co-workers and I communicate outside of work.

b Predictors: (Constant), 103 My co-workers and I communicate outside of work., 099 Outside of work, my co-workers and I have families who are friends.

c Predictors: (Constant), 103 My co-workers and I communicate outside of work., 099 Outside of work, my co-workers and I have families who are friends., 007 My co-workers and I eat meals together outside of work.

d Predictors: (Constant), 103 My co-workers and I communicate outside of work., 099 Outside of work, my co-workers and I have families who are friends., 007 My co-workers and I eat meals together outside of work., 058 My co-workers and I are friends outside of work.

e Predictors: (Constant), 103 My co-workers and I communicate outside of work., 099 Outside of work, my co-workers and I have families who are friends., 007 My co-workers and I eat meals together outside of work., 058 My co-workers and I are friends outside of work., 063 My co-workers and I participate in common hobbies and pastimes.

f Predictors: (Constant), 103 My co-workers and I communicate outside of work., 099 Outside of work, my co-workers and I have families who are friends., 007 My co-workers and I eat meals together outside of work., 058 My co-workers and I are friends outside of work., 063 My co-workers and I participate in common hobbies and pastimes., 132 My co-workers and I talk about the job outside of work.

E. Model Summary on Policies and Promotions

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.828	.686	.685	.56163805	.686	510.998	1	234	.000
2	.901	.812	.811	.43511294	.126	156.875	1	233	.000
3	.924	.854	.852	.38422706	.042	66.802	1	232	.000
4	.937	.878	.876	.35218692	.024	45.132	1	231	.000
5	.942	.887	.884	.34040729	.009	17.264	1	230	.000
6	.943	.889	.886	.33716227	.003	5.449	1	229	.020

a Predictors: (Constant), 118 People are promoted unfairly in my organization.

b Predictors: (Constant), 118 People are promoted unfairly in my organization., 023 People are promoted for playing politics in my organization.

c Predictors: (Constant), 118 People are promoted unfairly in my organization., 023 People are promoted for playing politics in my organization., 010 Policies are rewritten or overlooked for certain people in my organization.

d Predictors: (Constant), 118 People are promoted unfairly in my organization., 023 People are promoted for playing politics in my organization., 010 Policies are rewritten or overlooked for certain people in my organization., 055 People in my organization have gotten promoted as a result of violating rules and/or regulations.

e Predictors: (Constant), 118 People are promoted unfairly in my organization., 023 People are promoted for playing politics in my organization., 010 Policies are rewritten or overlooked for certain people in my organization., 055 People in my organization have gotten promoted as a result of violating rules and/or regulations., 075 There are no clear-cut standards for promotions or transfers in my organiztion.

f Predictors: (Constant), 118 People are promoted unfairly in my organization., 023 People are promoted for playing politics in my organization., 010 Policies are rewritten or overlooked for certain people in my organization., 055 People in my organization have gotten promoted as a result of violating rules and/or regulations., 075 There are no clear-cut standards for promotions or transfers in my organiztion., 038 People in my organization take advantage of others to get promoted.

F. Model Summary on Propensity to Distrust

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.810	.656	.654	.58798033	.656	445.739	1	234	.000
2	.905	.819	.817	.42759088	.163	209.471	1	233	.000
3	.960	.922	.921	.28089739	.103	307.905	1	232	.000

a Predictors: (Constant), 054 When I first meet a co-worker, I do not trust them if they complain.
b Predictors: (Constant), 054 When I first meet a co-worker, I do not trust them if they complain., 062 When I first meet a co-worker, I do not trust them if they gossip.
c Predictors: (Constant), 054 When I first meet a co-worker, I do not trust them if they complain., 062 When I first meet a co-worker, I do not trust them if they gossip., 065 When I first meet a co-worker, I do not trust them if they have a bad attitude.

APPENDIX 2. Exploratory factor analysis by position in the organization

A. Faculty

	Factors					
	1	**2**	**3**	**4**	**5**	**6**
Q001 When I first meet a co-worker, I trust them if they cooperate.	0.724	0.120	0.035	0.035	0.173	-0.256
Q002 When I first meet a co-worker, I trust them if they are considerate.	0.855	0.126	0.138	0.079	0.030	-0.274
Q003 When I first meet a co-worker, I trust them if they seem sincere.	0.792	0.150	0.122	0.045	0.116	-0.261
Q004 When I first meet a co-worker, I trust them based on their willingness to listen.	0.820	0.130	0.014	0.003	-0.022	0.294
Q005 When I first meet a co-worker, I trust them if they are patient.	0.880	0.110	0.049	-0.008	-0.069	0.380
Q006 When I first meet a co-worker, I trust them if they are helpful.	0.818	0.113	0.116	0.076	0.059	-0.132
Q007 When I first meet a co-worker, I trust them if they are personable.	0.756	-0.095	-0.030	0.084	0.000	0.033
Q008 When I first meet a co-worker, I trust them if they are respectful.	0.782	0.135	0.051	0.020	-0.049	0.021
Q009 When I first meet a co-worker, I trust them if they are confident.	0.614	0.118	-0.075	0.069	0.064	0.153
Q010 People in my organization are willing to do more than what is on their job description.	0.149	0.673	0.160	0.089	0.192	0.011
Q011 People in my organization follow through when asked to do something.	0.138	0.744	0.136	0.153	0.112	0.030
Q012 People in my organization are dependable.	0.122	0.844	0.121	0.086	0.145	-0.075
Q013 People in my organization are honest.	0.133	0.746	0.146	0.117	0.327	-0.092
Q014 People in my organization are hard working.	0.185	0.761	0.083	0.079	0.149	0.125
Q015 People in my organization do their jobs.	0.175	0.808	0.183	0.040	0.199	0.016
Q016 People in my organization take responsibility for mistakes.	0.092	0.601	0.180	0.192	0.375	-0.016
Q017 People in my organization get things done correctly.	-0.026	0.751	0.128	0.014	0.312	0.000
Q018 My co-workers and I eat meals together outside of work.	0.104	0.091	0.060	0.719	-0.044	-0.012
Q019 My co-workers and I are friends outside of work.	0.152	0.140	0.071	0.832	-0.008	-0.040
Q020 My co-workers and I participate in common hobbies and pastimes.	0.009	0.083	-0.087	0.682	-0.034	0.061
Q021 Outside of work, my co-workers and I have families who are friends.	0.078	0.041	0.038	0.807	0.110	0.031
Q022 My co-workers and I communicate outside of work.	0.027	0.057	0.016	0.889	0.121	-0.019
Q023 Policies are rewritten or overlooked for certain people in my organization.	0.040	0.277	0.207	0.066	0.497	0.104

Faculty *(continued)*

	Factors					
	1	**2**	**3**	**4**	**5**	**6**
Q024 People are promoted for playing politics in my organization.	0.062	0.254	0.195	-0.016	0.747	-0.083
Q025 People in my organization have gotten promoted as a result of violating rules and/or regulations.	-0.004	0.359	0.188	0.044	0.609	-0.022
Q026 There are no clear-cut standards for promotions or transfers in my organization.	-0.030	0.422	0.297	0.032	0.382	0.053
Q027 People are promoted unfairly in my organization.	0.039	0.293	0.335	-0.025	0.658	-0.073
Q028 My boss plays favorites.	-0.012	0.195	0.502	0.054	0.581	0.033
Q029 My boss lies.	0.016	0.276	0.752	0.006	0.376	0.045
Q030 My boss supervises by threats.	0.062	0.139	0.865	-0.001	0.147	-0.025
Q031 My boss supervises by intimidation.	0.022	0.185	0.911	0.046	0.204	-0.033
Q032 My boss does not listen to me.	0.070	0.234	0.706	0.053	0.375	-0.027
Q033 When I first meet a co-worker, I do not trust them if they complain.	0.110	-0.208	0.012	0.026	0.061	0.111
Q034 When I first meet a co-worker, I do not trust them if they gossip.	0.104	0.132	0.115	-0.086	0.069	-0.054
Q035 When I first meet a co-worker, I do not trust them if they have a bad attitude.	0.166	-0.040	-0.045	0.064	-0.037	0.092

B. Professional and Scientific

	Factors					
	1	**2**	**3**	**4**	**5**	**6**
Q001 When I first meet a co-worker, I trust them if they cooperate.	0.824	0.083	0.054	0.079	-0.024	0.004
Q002 When I first meet a co-worker, I trust them if they are considerate.	0.863	0.095	-0.062	0.016	0.044	-0.029
Q003 When I first meet a co-worker, I trust them if they seem sincere.	0.823	0.098	-0.097	-0.003	0.056	0.000
Q004 When I first meet a co-worker, I trust them based on their willingness to listen.	0.812	0.051	-0.047	0.062	0.001	0.046
Q005 When I first meet a co-worker, I trust them if they are patient.	0.822	0.084	0.002	0.041	-0.038	0.050
Q006 When I first meet a co-worker, I trust them if they are helpful.	0.899	0.119	-0.045	0.030	-0.012	0.032
Q007 When I first meet a co-worker, I trust them if they are personable.	0.757	0.171	-0.028	0.085	-0.114	0.079
Q008 When I first meet a co-worker, I trust them if they are respectful.	0.818	0.079	0.016	0.009	-0.026	0.187
Q009 When I first meet a co-worker, I trust them if they are confident.	0.641	0.123	0.093	0.077	-0.089	0.134
Q010 People in my organization are willing to do more than what is on their job description.	0.132	0.679	0.209	0.111	0.091	-0.034
Q011 People in my organization follow through when asked to do something.	0.180	0.744	0.156	0.066	0.144	-0.003
Q012 People in my organization are dependable.	0.111	0.833	0.187	0.081	0.082	0.048
Q013 People in my organization are honest.	0.135	0.732	0.316	0.101	0.137	-0.062
Q014 People in my organization are hard working.	0.101	0.794	0.243	0.117	0.037	0.044
Q015 People in my organization do their jobs.	0.127	0.790	0.196	0.060	0.056	0.024
Q016 People in my organization take responsibility for mistakes.	0.120	0.677	0.313	0.086	0.084	-0.046
Q017 People in my organization get things done correctly.	0.098	0.751	0.226	0.041	0.106	0.004
Q018 My co-workers and I eat meals together outside of work.	0.061	0.066	-0.030	0.651	0.121	-0.002
Q019 My co-workers and I are friends outside of work.	0.085	0.167	-0.005	0.807	0.062	0.011
Q020 My co-workers and I participate in common hobbies and pastimes.	0.023	0.077	0.010	0.686	-0.004	-0.065
Q021 Outside of work, my co-workers and I have families who are friends.	0.069	0.059	0.072	0.788	-0.069	-0.017
Q022 My co-workers and I communicate outside of work.	0.053	0.072	0.071	0.914	-0.013	-0.021
Q023 Policies are rewritten or overlooked for certain people in my organization.	0.005	0.269	0.689	-0.076	0.090	-0.040

Professional and Scientific *(continued)*

	Factors					
	1	**2**	**3**	**4**	**5**	**6**
Q024 People are promoted for playing politics in my organization.	-0.025	0.241	0.761	0.027	0.128	0.020
Q025 People in my organization have gotten promoted as a result of violating rules and/or regulations.	0.010	0.365	0.680	0.030	0.146	0.020
Q026 There are no clear-cut standards for promotions or transfers in my organization.	-0.051	0.233	0.550	0.047	0.055	-0.051
Q027 People are promoted unfairly in my organization.	-0.016	0.286	0.781	0.015	0.166	-0.067
Q028 My boss plays favorites.	-0.024	0.185	0.630	0.052	0.425	-0.022
Q029 My boss lies.	-0.031	0.232	0.521	0.088	0.539	0.047
Q030 My boss supervises by threats.	-0.091	0.225	0.296	-0.005	0.817	0.071
Q031 My boss supervises by intimidation.	-0.071	0.136	0.319	0.049	0.844	0.029
Q032 My boss does not listen to me.	-0.053	0.267	0.512	0.065	0.487	0.054
Q033 When I first meet a co-worker, I do not trust them if they complain.	0.060	-0.062	-0.055	-0.025	0.002	0.664
Q034 When I first meet a co-worker, I do not trust them if they gossip.	0.037	0.032	-0.027	-0.068	0.046	0.572
Q035 When I first meet a co-worker, I do not trust them if they have a bad attitude.	0.236	0.017	0.030	0.031	0.032	0.759

C. Merit Staff

	Factors					
	1	**2**	**3**	**4**	**5**	**6**
Q001 When I first meet a co-worker, I trust them if they cooperate.	0.887	0.108	-0.015	0.085	0.054	0.017
Q002 When I first meet a co-worker, I trust them if they are considerate.	0.871	0.093	0.003	0.088	0.040	-0.093
Q003 When I first meet a co-worker, I trust them if they seem sincere.	0.810	0.169	0.050	0.107	0.044	-0.013
Q004 When I first meet a co-worker, I trust them based on their willingness to listen.	0.878	0.019	-0.003	0.090	0.030	0.029
Q005 When I first meet a co-worker, I trust them if they are patient.	0.862	0.007	0.040	0.097	0.031	0.080
Q006 When I first meet a co-worker, I trust them if they are helpful.	0.899	0.085	0.059	0.135	0.060	0.135
Q007 When I first meet a co-worker, I trust them if they are personable.	0.788	0.128	0.072	0.170	0.049	0.251
Q008 When I first meet a co-worker, I trust them if they are respectful.	0.847	0.136	-0.003	0.131	0.075	0.218
Q009 When I first meet a co-worker, I trust them if they are confident.	0.758	0.004	0.134	0.147	0.001	0.105
Q010 People in my organization are willing to do more than what is on their job description.	0.040	0.687	0.314	0.079	0.121	-0.040
Q011 People in my organization follow through when asked to do something.	0.187	0.737	0.239	0.039	0.184	-0.018
Q012 People in my organization are dependable.	0.058	0.702	0.299	0.051	0.227	-0.056
Q013 People in my organization are honest.	0.080	0.631	0.302	0.157	0.232	-0.026
Q014 People in my organization are hard working.	0.115	0.831	0.142	0.117	0.041	0.090
Q015 People in my organization do their jobs.	0.053	0.845	0.190	0.052	0.104	0.138
Q016 People in my organization take responsibility for mistakes.	0.024	0.745	0.316	0.031	0.159	-0.062
Q017 People in my organization get things done correctly.	0.153	0.802	0.100	0.043	0.149	0.026
Q018 My co-workers and I eat meals together outside of work.	0.195	0.149	0.113	0.573	0.104	-0.036
Q019 My co-workers and I are friends outside of work.	0.132	0.125	0.075	0.858	0.081	0.012
Q020 My co-workers and I participate in common hobbies and pastimes.	0.151	0.066	0.055	0.671	-0.002	0.053
Q021 Outside of work, my co-workers and I have families who are friends.	0.157	-0.043	0.041	0.672	-0.030	-0.040
Q022 My co-workers and I communicate outside of work.	0.083	0.107	0.041	0.905	0.019	-0.004
Q023 Policies are rewritten or overlooked for certain people in my organization.	-0.048	0.274	0.589	0.043	0.095	-0.020

Merit Staff *(continued)*

	Factors					
	1	**2**	**3**	**4**	**5**	**6**
Q024 People are promoted for playing politics in my organization.	-0.030	0.162	0.824	0.038	0.090	-0.011
Q025 People in my organization have gotten promoted as a result of violating rules and/or regulations.	0.080	0.304	0.618	0.078	0.149	-0.037
Q026 There are no clear-cut standards for promotions or transfers in my organization.	0.069	0.247	0.541	0.086	0.126	-0.150
Q027 People are promoted unfairly in my organization.	0.115	0.320	0.719	0.131	0.130	-0.079
Q028 My boss plays favorites.	0.091	0.308	0.539	0.055	0.412	0.039
Q029 My boss lies.	0.152	0.399	0.463	0.079	0.538	0.091
Q030 My boss supervises by threats.	0.034	0.314	0.252	0.045	0.786	0.035
Q031 My boss supervises by intimidation.	0.091	0.243	0.154	0.056	0.823	0.056
Q032 My boss does not listen to me.	0.077	0.330	0.423	0.015	0.574	0.068
Q033 When I first meet a co-worker, I do not trust them if they complain.	0.229	-0.112	0.015	0.034	0.068	0.590
Q034 When I first meet a co-worker, I do not trust them if they gossip.	-0.025	0.128	-0.123	-0.217	0.011	0.512
Q035 When I first meet a co-worker, I do not trust them if they have a bad attitude.	0.245	0.033	-0.071	0.153	0.043	0.708